Connecticut Medicine

The Journal of the Connecticut State Medical Society

VOLUME 64 JANUARY 2000 NUMBER 1

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CONNECTICUT MEDICINE (ISSN 0010-6178), published monthly at 160 St. Ronan Street, New Haven, CT 06511. Subscription rate included in membership dues. Non-members: $25.00 per year. Periodicals postage paid at New Haven, CT and at additional mailing offices. POSTMASTER: Send address changes to Connecticut Medicine, 160 St. Ronan Street, New Haven, CT 06511-2312.

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Vol. 64, No. 1 *The Journal of the Connecticut State Medical Society* **January 2000**
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The Sound and the Fury: An Update on the Role of High-Dose Chemotherapy and Autologous Stem Cell Salvage for Both Metastatic and High-Risk Breast Cancer

MICHAEL H. BAR, M.D.

OVER the past decade the results of a series of investigations regarding the role of high-dose chemotherapy and autologous stem cell salvage in the treatment of both metastatic and high-risk breast cancer have generated excitement as well as controversy. Indeed, although multiple phase II studies examining the steep dose-response relationship of various chemotherapeutic agents to breast cancer cell kill have suggested outcomes which are dramatically improved compared to those achieved with standard chemotherapy, appropriate criticism has been targeted at the small sample sizes, inherent selection biases, and nonrandomized nature of these protocols. This year, at the American Society of Clinical Oncology (ASCO) meetings, the results of several large, randomized, phase III studies, involving patients with both metastatic and high-risk breast cancer, were presented during the plenary session. This article will summarize the results of these landmark randomized studies within the context of previously available phase II data, delineate ongoing controversies, and discuss future directions for clinical research.

Metastatic Breast Cancer

Historical Data.—In the early 1990s, several investigators, including Peters et al[1], Williams et al,[2] and Antman et al[3] began to report the results of small phase II studies examining the role of high-dose alkylating therapy in the treatment of women with metastatic breast cancer. Although the regimens proved highly toxic, with early mortality rates approximating 20% to 25%, unmaintained clinical complete remissions were reported in approximately 15% to 25% of patients. Furthermore, a significant improvement in outcome was consistently observed in those patients who underwent bone marrow transplantation while in complete remission after standard induction chemotherapy.

In 1992, an overview analysis of the first 267 patients treated on high-dose chemotherapy protocols confirmed a clinical complete response rate of 26% and demonstrated that improvements in the preparative regimen had decreased transplanted-related mortality to approximately 10%.[3] In 1995, Bezwoda et al, published the results of the first randomized study comparing high-dose chemotherapy and autologous stem cell salvage with standard treatment.[4] The complete remission rate (51% *vs* 4%) and the overall response rate (95% *vs* 53%) achieved with high-dose chemotherapy were significantly better than those observed after conventional treatment. Furthermore, there were also statistically significant improvements in overall and progression-free survival. Bezwoda et al concluded that sequential high-dose chemotherapy resulted in a substantially increased complete remission rate as well as significant, albeit more modest, improvements in response duration and survival.

Despite these encouraging results, this study was criticized for its small sample size, short follow-up, and use of a nonstandard CNV (Cytoxan, Novantrone, Vincristine) control arm. In addition, the overall survival of patients who relapsed after either high-dose chemotherapy or standard therapy was only 10 weeks, suggesting either the ineffective use of second line treatments or inadequate follow-up of relapsing patients. In 1997, the Autologous Blood and Marrow Transplant Registry of North America reported the results of high-dose chemotherapy in 3,451 women with metastatic breast cancer. These data suggested three-year progression-free overall survivals of 18% and 30%, respectively.[5]

MICHAEL H. BAR, M.D., F.A.C.P., Assistant Clinical Professor of Medicine, Columbia University College of Physicians and Surgeons, Director of Autologous Bone Marrow Transplant Program, Bennett Cancer Center, Stamford.

Randomized Studies—ASCO 1999

PBT-1 Trial[6].—The "Philadelphia" Intergroup Study (PBT-1) trial, as presented by Stadtmauer from the University of Pennsylvania, is the first and only phase III trial that compares transplantation to ongoing conventional salvage treatment as consolidation therapy for patients with responding metastatic breast cancer. Between 1990 and 1997, 553 patients were registered, of whom 513 were eligible to participate in the PBT-1 trial. Patients received either CAF (Cytoxan, Adriamycin, 5FU) or CMF (Cytoxan, Methotrexate, 5FU) chemotherapy, after which those patients achieving either a complete remission (11%) or a partial remission (47%) were randomized to receive high-dose CTCb (Cytoxan, ThioTEPA, Carboplatin) or standard CMF consolidative treatment. At a median follow-up of 37 months, only 62% (184/297) of the remission patients were evaluable for response and toxicity. There were no apparent differences in complete response rate, overall response rate, three-year overall survival, time to treatment progression, or three-year progression-free survival between the two arms. There also was no apparent benefit of high-dose chemotherapy for that subgroup of patients who had achieved a pretransplant complete remission. Therefore, the authors concluded that responding patients with Stage IV breast cancer did not benefit from consolidative transplantation and that remission status at the time of transplantation had no impact on outcome of therapy.

Although the PBT-1 trial does confirm that women with less than a complete remission to induction chemotherapy do not benefit from a single, high-dose chemotherapeutic program utilizing the CTCb regimen, other issues remain unresolved. As a consequence of the high dropout/ineligibility rate observed during the course of this study, only 45 complete remission patients were actually randomized and evaluated. Unfortunately, this resulted in a statistically weak, 90% power to detect only a 50% change in the overall survival of this cohort of patients and therefore could not exclude a meaningful benefit for complete responders. In addition, this single high-dose consolidative program neither refutes, nor supports, the favorable results presented by Bezwoda et al which explored the use of initial, sequential, tandem high-dose therapies without prior standard induction treatment.

French Pegase 04 study, reported by Lotz et al[7].—This study of 61 women with metastatic breast cancer randomized patients in complete or partial remission after a standard anthracycline induction regimen to either a single high-dose therapy followed by peripheral blood stem cell transplantation, or ongoing treatment with the standard anthracycline program. The results demonstrate a statistically significant improvement in progression-free survival and a trend towards improvement in overall survival favoring the transplant arm.

High-Risk Breast Cancer

Historical data.—In 1995, Peters et al from Duke University first published the results of treatment with high-dose chemotherapy as consolidation after CAF induction in 85 women with high-risk breast cancer as defined by at least 10 involved axillary lymph nodes.[8] At that time, the median follow-up was two and one-half years and the results were compared to a well-matched, historical cohort of patients treated on Cancer and Leukemia Group B (CALGB) studies. Although the toxic death rate remained high at 12%, and was attributed to the use of BCNU (Carmustine) as part of the preparative regimen, the 30-month relapse rate (19%), two and one-half-year event-free survival (72%) and two and one-half year overall survival (79%) were significantly better than those predicted by the CALGB matched controls. Updated seven-year overall survival data, presented by Peters et al during the 1999 ASCO session, remained impressive at 68%. However, the design of the Duke study required an unusual and extremely aggressive staging program, including CT and MRI scanning and bilateral bone marrow biopsies, which was not employed during the selection of the historical control group. An inherent selection bias was apparent and the results of the Duke study were called into question.

In 1997, Gianni et al, from the Istituto Nazionale in Milan, reported the results of sequential, high-dose, noncross-resistant therapies administered to 67 women with breast cancer who harbored at least 10 involved axillary lymph nodes.[9] These patients were staged in a less rigorous, more conventional fashion than those enrolled in the Duke study, and they were compared to a selected historical control group, evaluated in Milan during the same time period, who were eligible for the transplant protocol but who ultimately received sequential Adriamycin and CMF. Although the two treatment groups were generally well balanced, the patients in the nontransplant treatment group had, on average, fewer involved axillary lymph nodes. Nevertheless, the five-year relapse-free survival was significantly improved in the high-dose group (57%) as compared to the control group (41%). Furthermore, when comparing only the subgroup of women with involvement of between 10 and 20 axillary lymph nodes, both the five-year overall survival and the median relapse-free survival were also statistically significantly improved. During the 1998 ASCO meetings, Rodenhuis et al and Hortobagyi et al each presented small, randomized trials exploring the efficacy of consolidative transplantation after standard chemotherapy.[10,11] Neither study demonstrated a benefit for high dose chemotherapy.

Randomized studies—ASCO 1999.—Three randomized, phase III trials examining the merits of treatment with high-dose chemotherapy, as compared to a "standard therapy," in women with high-risk breast cancer were presented. Although all three studies were well executed and examined only women with "high-risk disease," the trial designs, and the scientific hypotheses under investigation were distinct. Therefore, each trial needs to be examined individually and a generalization of the outcome data is not feasible.

U.S. Intergroup trial.[12]—The U.S. Intergroup trial, reported by Peters et al, enrolled 785 women who received four cycles of standard CAF followed by randomization to either "high-dose" CBP (Cytoxan, BCNU, Cisplatin) chemotherapy and autologous stem cell salvage or "standard-dose" CBP and G-CSF (Neupogen) support and thus examined the question of pure-dose intensification. All patients had Stage II or IIIA breast cancer with at least 10 involved axillary lymph nodes. The Intergroup investigators chose event-free survival as the primary endpoint, as the protocol allowed for crossover to bone marrow transplantation at the time of relapse. Although the first planned analysis was scheduled to occur only after all patients had a minimum of three years of follow-up, an interim analysis was presented at ASCO after a median follow-up of 37 months, two years ahead of schedule. There was no difference in event-free survival, or overall survival, between the two treatment arms. However, a lower relapse rate was appreciated in the transplant arm (22% *vs* 32%), as was a higher toxic death rate (7.4% *vs* 0%), raising the possibility that transplant-related mortality offset any benefit related to the decreased relapse rate. In addition, the crossover design, which addresses the issue of early *vs* late transplantation, is likely to obscure any overall survival benefit. Finally, the event-free survival analysis was performed at a time when only 60% of the expected events had transpired. As pointed out by Dr. Karen Antman during her discussion of the plenary session papers, had a three-year analysis been performed prematurely on the Parma lymphoma transplant study, (which ultimately proved the benefit of high-dose chemotherapy for patients with relapsed non-Hodgkin's lymphoma), it too would have been interpreted as a negative study, as the results only reached statistical significance after five years of follow-up.

Scandinavian Trial.[13]—The Scandinavian transplant trial, presented by Berg et al, examined the question of peak chemotherapeutic dose *vs* total chemotherapeutic dose. Enrollment consisted of 525 women with a predicted 70% probability of relapse, as defined by a population-based risk analysis. This group of women included patients with Stage IV disease who had minimal bone involvement or microscopic bone marrow metastases. Patients were randomized to receive either three cycles of "standard" FEC (Fluorouracil, Epirubicin, Cytoxan) chemotherapy followed by consolidation with high-dose CTCb chemotherapy and autologous stem cell salvage or nine cycles of aggressively escalated "tailored" FEC. After a median follow-up of 24 months, there was no apparent difference in the overall survival; although, the relapse rate was lower in the "tailored" FEC group. However, there was an increased risk of myelodyplasia and acute leukemia in the "tailored" FEC arm, and a quality of life analysis favored transplantation. The results of this study are obscured by the inclusion of patients with Stage IV disease as well as the study design, which evaluated two intensive, high-dose schedules, rather than comparing high-dose and standard-dose therapies. Indeed, many of the patients in the nontransplant "tailored" FEC arm actually received a greater cumulative dose of chemotherapy than did transplanted patients.

South African Trial.[14]—The South African trial, presented by Bezwoda, addressed the relative merits of high-dose chemotherapy as compared to a standard adjuvant regimen. The 154 patients with high-risk breast cancer, as defined by at least seven involved axillary lymph nodes, were randomized to receive treatment with either immediate, high-dose, sequential CNVp (Cytoxan, Novantrone, VP-16) and peripheral blood stem cell transplantations or six cycles of standard CAF. At a median follow-up of five years, both the relapse rate (28% *vs* 69%) and the median overall survival (greater than 400 weeks *vs* 320 weeks) were statistically significantly improved in the transplant arm. Although these results are provocative, the small sample size and the use of a CAF control arm, which is no longer considered the standard for such high-risk patients, renders firm conclusions premature.

Presently, it is fair to conclude that patients with metastatic breast cancer who are in less than complete remission after induction chemotherapy probably do not benefit from a single high-dose consolidation utilizing CTCb. However, patients in complete remission after induction may benefit from a single consolidation with high-dose chemotherapy. Immediate double transplantation, without prior induction treatment, may prove beneficial for a wider range of patients with metastatic disease. In addition, sequential tandem transplantation appears better than standard CAF in women with high-risk breast cancer, and relapse rates in such women are consistently lower after high-dose chemotherapy, as compared to standard treatment. Issues regarding the relative benefits of peak dose, total dose, and dose density remain unresolved.

All patients with either high-risk or metatatic breast cancer, who are potential candidates for high-dose chemotherapy and autologous stem cell salvage, should be encouraged to enroll on appropriate clinical research trials. Several interesting approaches were presented at the 1999 ASCO meeting, including strategies for improved patient selection based on HER-2/neu status, improvement in the activity of both the pretransplant induction and the transplant preparative regimens, the use of tandem or triple sequential transplants to achieve maximum tumor cell kill, purging techniques to eradicate minimal residual disease in the graft product, and post-transplant immunomodulatory therapies to harness immune mechanisms during states of minimal residual disease. Hopefully, such novel strategies can significantly improve upon current transplant outcomes and truly effect the duration and quality of survival for patients afflicted with breast cancer.

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Perforation of Jejunal Diverticulum: Case Report and Review of Literature

MING FANG, M.D., SAMINA AGHA, M.D., RONALD LEE, M.D.,
JOAN CULPEPPER-MORGAN, MD., AND ARTHUR D'SOUZA, M.D.

ABSTRACT—We report the case of a 90-year-old woman, previously diagnosed with jejunal and colonic diverticula, who presented with left lower quadrant abdominal pain suggesting either colonic diverticulitis or ischemic colitis. A computed tomography scan revealed a perforated jejunal diverticulum with abscess formation. The patient promptly was treated surgically without complications. A review of the literature indicates the rarity of perforation of jejunal diverticula and the difficulty of early diagnosis. We discuss the etiology, pathogenesis, diagnosis, and management of this rare entity. It is important for primary care physicians to be familiar with this disease. Delay in work-up often results in catastrophic consequences.

Introduction

JEJUNAL diverticulum is a rare form of gastrointestinal diverticular disease.[1–3] It is usually an asymptomatic and incidental finding, and can be treated conservatively.[2] Perforation of the diverticulum is extremely rare and is managed surgically.[4] The outcome is closely related to the interval from initial presentation to intervention. A delayed diagnosis is associated with a high mortality rate.[4,8,19] We present a case of jejunal diverticular perforation with nonspecific symptoms and signs. High clinical suspicion and prompt choice of the right imaging test led to successful surgical treatment without complications.

Case Report

A 90-year-old woman with a history of atrial fibrillation, congestive heart failure, postural hypotension, jejunal diverticula, and colonic diverticulosis presented with an 18-hour illness. She complained of early onset of anorexia, fever, chills, and left lower quadrant abdominal pain with cessation of bowel movement. In 1984, she was found to have vitamin B12 and iron deficiency anemia secondary to blind loop syndrome. Gastrointestinal series revealed multiple jejunal and colonic diverticula. The anemia was corrected with iron, Vitamin B12. and antibiotics. Subsequently, the patient had several episodes of colonic diverticulitis and one episode of GI bleeding due to colonic diverticulosis while on Coumadin for atrial fibrillation in 1994.

On this admission, her blood pressure was 122/60, pulse rate 80/minute, and temperature 100.2 F. The abdomen was soft and mildly tender in the left lower quadrant without rebound. White cell count was 10,400 per microliter with 88% neutrophils. The diagnosis was thought to be colonic diverticulitis or ischemic colitis. A computed tomography (CT) scan revealed a four-centimeter abscess adjacent to the first jejunal loop, possibly diverticular in origin (Fig. 1). Emergency laparotomy was performed. The interval from the onset of symptoms to surgery was about 24-hours. A perforated jejunal diverticulum with abscess formation in the central mesentery was found. The involved bowel was resected and the abscess drained. The postoperative course was unremarkable and the patient was discharged on the ninth day without complications.

The pathology of the resected jejunal specimen revealed multiple small diverticula on the mesenteric border (Fig. 2A). Microscopic examination of the diverticula showed blind pouches with an attenuated muscularis pro-

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MING FANG, M.D., Medical Resident; SAMINA AGHA, M.D., Medical Chief Resident; RONALD LEE, M.D., Attending Radiologist; JOAN CULPEPPER-MORGAN, MD., Attending Gastroenterologist; ARTHUR D'SOUZA, M.D., Attending Gastroenterologist, Departments of Medicine and Radiology, Norwalk Hospital, Yale University School of Medicine, Norwalk.

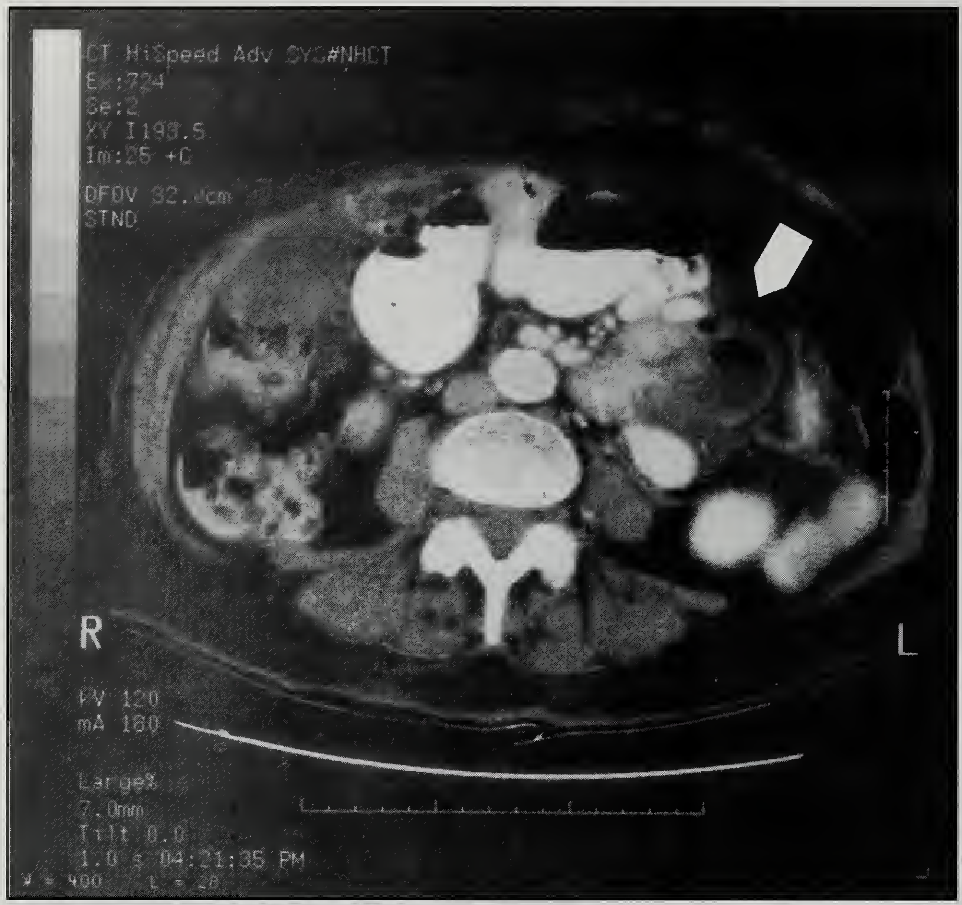


Figure 1.—Jejunal diverticulum with abscess and multiple colonic diverticula. CT-scan shows a four centimeter abscess (white arrowhead) adjacent to the fourth duodenal segment, lateral to the ligament of Trietz. The abscess demonstrates an enhancing wall with an air-fluid level centrally. Inflammatory infiltration of the surrounding adipose tissue and duodenal/proximal jejunum is noted.

pria (Fig. 2B). The four-centimeter perforated diverticulum (Fig. 3A) on microscopy demonstrated a predominantly neutrophilic transmural infiltrate and extensive necrosis (Fig. 3B). The follow-up of this patient confirmed complete resolution of the symptoms.

Discussion

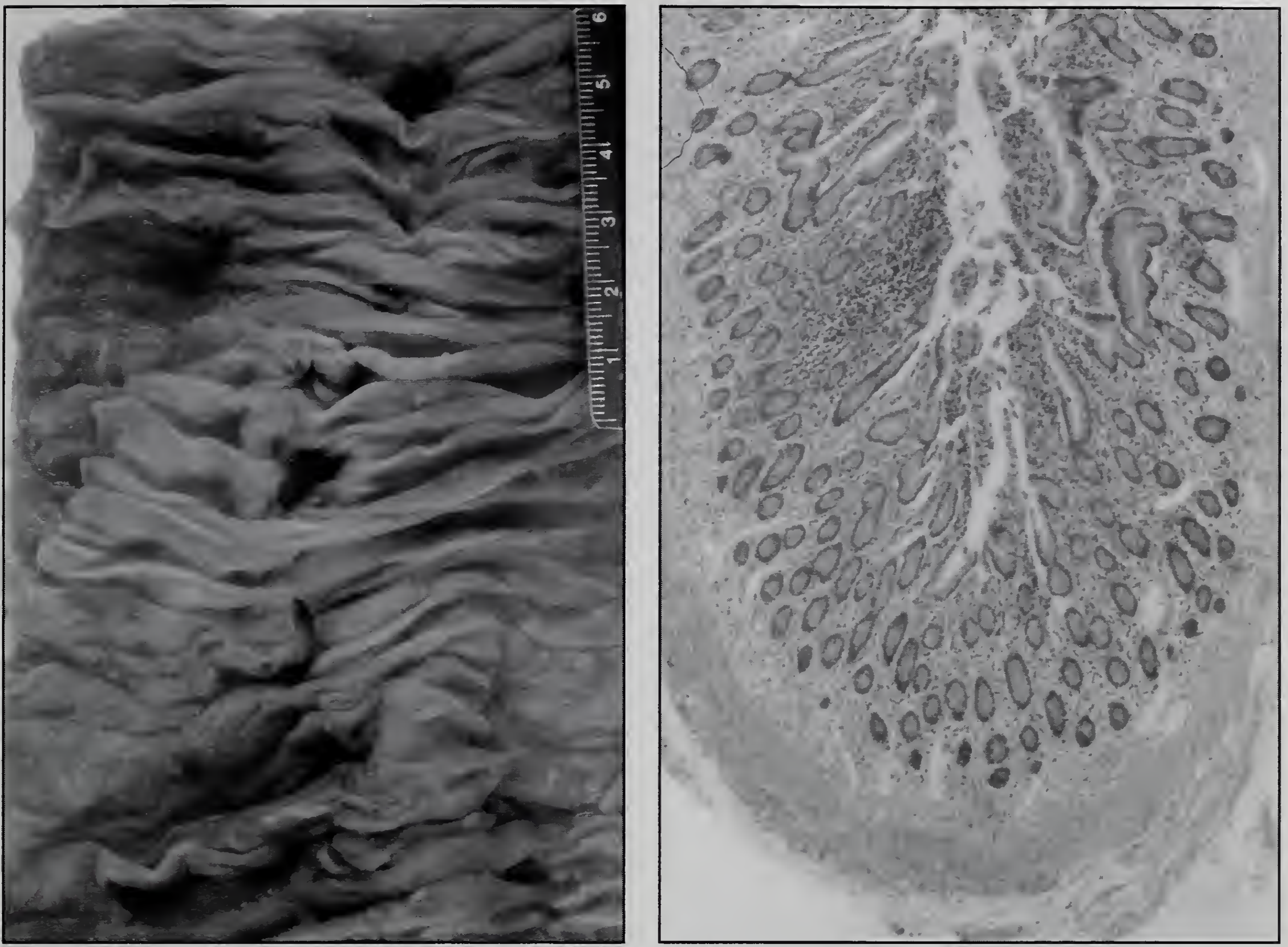
Small bowel diverticulosis is a rare form of GI diverticular disease. The prevalence of jejunal diverticula (JD) in the general population is approximately one percent. Edwards reported 1.3% JD in carefully performed autopsy examinations.[1] JD have been seen by barium radiograph in 0.1%-0.42% of studies.[1-3] There is a higher incidence in men (58%) than in women (42%).[2,5-7] JD can develop in young adults, but most are seen after the sixth decade of life.[1,2,5-7]

Small bowel diverticula including JD are thin-walled sacculations that either lack or have an attenuated muscularis propria.[5,7] JD are more commonly multiple than single.[2,8-9] They are almost always located on the mesenteric border between the leaves of the mesentery, at the site of entry of the vasa recta (locus minoris).[5] It is postulated that the majority of small bowel diverticula in the jejunum are attributable to the larger diameter of the penetrating artery.[2,5-6,9] Approximately 50% of the cases of jejunal diverticulosis are associated with colonic diverticulosis.[5]

It is thought that abnormal jejunal motility (dyskinesia) distal to the diverticula causes increased intraluminal pressure leading to diverticular formation.[6,7] However, Krishnamurthy et al, suggested that disordered contractions of the affected jejunum generated intraluminal pressure resulting in the extrusion of mucosa through vascular defects along the mesenteric border.[11]

Jejunal diverticula are usually asymptomatic and incidental findings.[2,12] When symptomatic, patients present with malabsorption or chronic pain.[2,5-7,13] Jejunal dysmotility and bacterial overgrowth are thought to be responsible for the chronic symptoms.[1,5,6] Most of them initially can be treated conservatively. A small group of patients may develop acute complications, such as intestinal obstruction, hemorrhage, diverticulitis with perforation, recurrent pneumoperitoneum, enterolith formation, and volvulus, which require emergency surgical intervention.[2,7,8,14-18]

Perforation is especially rare; the largest reported series consists of 13 patients.[4] It is difficult to establish a working diagnosis because the symptoms often mimic other acute intra-abdominal conditions such as appendicitis, perforated ulcer, cholecystitis, colonic diverticulitis, or ischemic bowel.[4,9] Initial physical examination frequently does not indicate the need for surgery, as illustrated in our case.[4] The choice of the right imaging test is critical. Plain abdominal radiographs are performed routinely but in most reported cases were not sufficient for diagnosis because of low sensitivity.[20,21] Barium studies may be useful but have limited value in this condition since entry of barium into a blind pouch may suggest a diverticulum, but may also be interpreted as other nonrelated structures. Also, the inflamed and edematous opening of diverticulitis and abscess may prevent the entry of the barium resulting in poor visualization of the affected diverticulum.[22] A CT scan can make a definitive diagnosis of JD



Figures 2A and 2B.—Jejunal diverticulosis. A) Multiple small diverticula from the resected jejunal specimen. B) The section of a diverticulum showing a blind pouch with an attenuated muscularis propria. (Hematoxylin and eosin. 40X)

perforation, as well as eliminate other causes of abdominal pain and fever.[20,23]

The outcome of jejunal diverticulitis with abscess is closely related to the interval from initial presentation to surgical intervention. A delayed diagnosis frequently results in intra-abdominal soilage and mortality rates as high as 40%.[4,9,19] Traditionally, the treatment for perforated JD is surgical resection of the involved segment of jejunum and primary anastomosis.[4–6,9,24,25] Recently, a salutary success of nonsurgical management of acute jejunal diverticulitis with abscess formation has been reported.[26] One of the patients was treated with antibiotics alone and the other with a combination of antibiotics and percutaneous CT-guided aspiration. Drainage of a liquefied abscess may be possible but aspiration of solid necrotic tissue as illustrated in Fig. 3 A and B is difficult if not impossible, and the retained necrotic material can serve as a nidus for continued infection and secondary abscess rupture.

In our case, mild abdominal symptoms and limited physical examination findings might not have prompted most practitioners to order an abdominal CT-scan. The primary care physician decided to pursue the work-up aggressively because of the patient's comorbidity. If the patient had proceeded through the usual multiple departmental work-up including emergency room and a medical floor team not familiar with the disease or the patient, significant delay might have occurred and full-blown perforation might have followed before obvious physical signs arose. The patient might have faced severe consequences, even death. High clinical suspicion in a patient with a previous history of JD, presenting with acute abdominal symptoms even if mild and atypical, is the key in establishing the diagnosis.

We thank Mr. Raymond Schneider for his excellent photographs of the pathological specimen.

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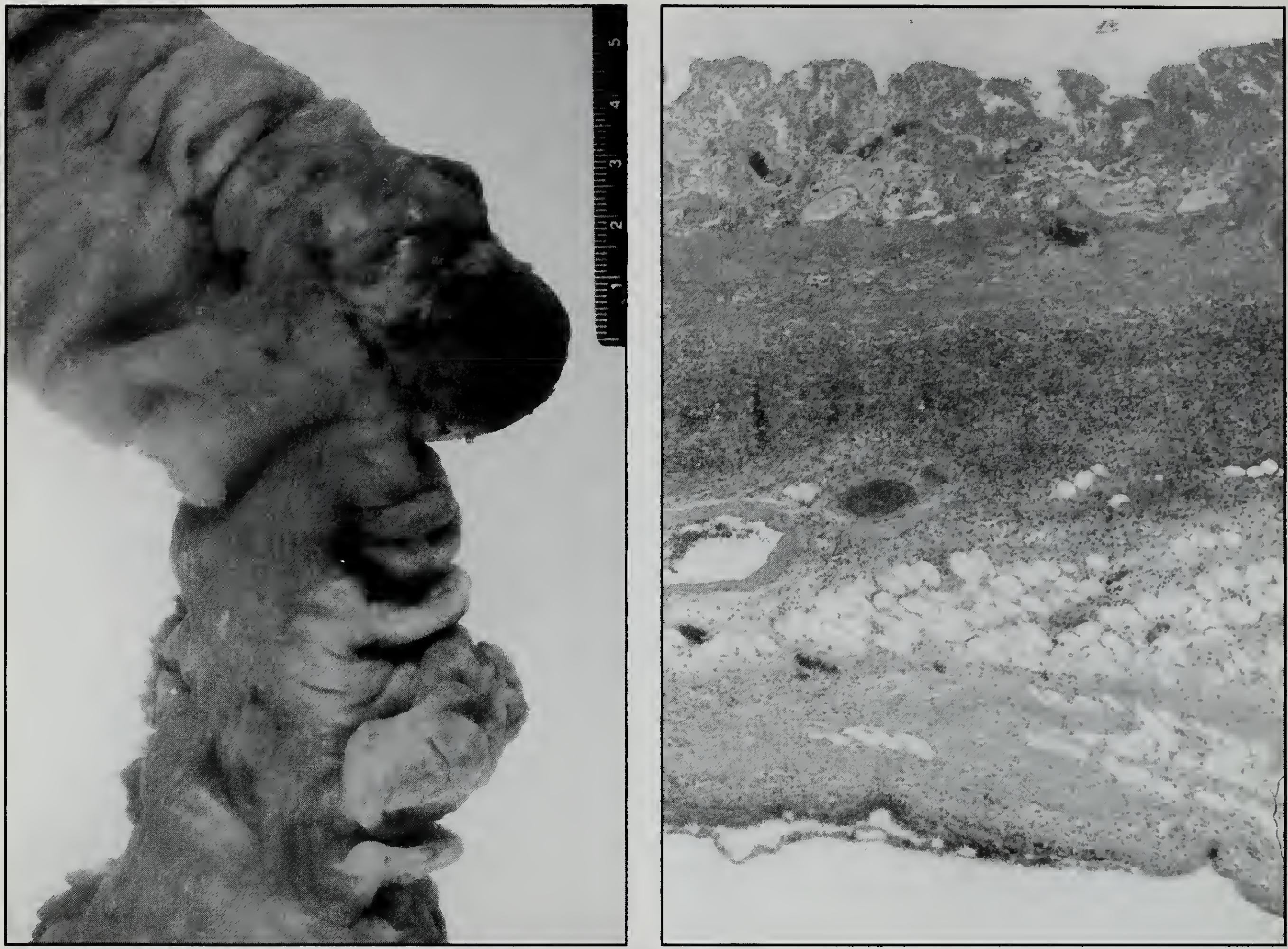

Figures 3A and 3B.—Jejunal diverticulitis with abscess. A) A portion of the resected jejunum showing a 4 centimeter diverticulum with abscess. B) A section of the abscess under low-power of microscopic view showing transmural inflammatory infiltrates, multiple thrombi, and extensive necrosis. (Hematoxylin and eosin. 40X)

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The Laffer Curve and HMOs: Or, Is Managed Care On the Slippery Downhill Slope?

RICHARD L. REECE, M.D.

> **Laf-fer curve. n.** A graph summarizing the fact that tax revenues are low for very high and very low tax rates, thus demonstrating that raising tax rates beyond an optimum point will discourage investment and decrease tax revenues (Late 20th C. Named after Arthur B. Laffer (b.1941) U.S. economist).
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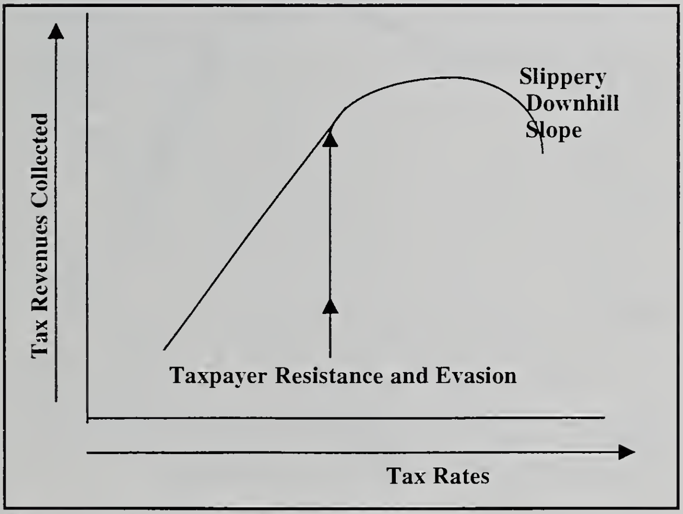


Figure 1 - The classic Laffer curve

Laffer and The Napkin

Health-care economist Arnold Laffer (1940–) sketched his well-known curve on the back of a napkin in a California restaurant in the late 1970s. The curve symbolized Reagan's tax cut program. Increasing tax rates beyond a certain point, maintained Laffer, reduced revenues and discouraged people from paying taxes, investing, and being productive. Beyond that certain point, Laffer said, people inevitably took steps to evade taxes, to barter, to seek loopholes, or to join the underground economy.

The Laffer Curve for Managed Care

I shall describe my version of the Laffer curve for managed care. Managed-care market penetration rates have reached a point in our society (86% of employed

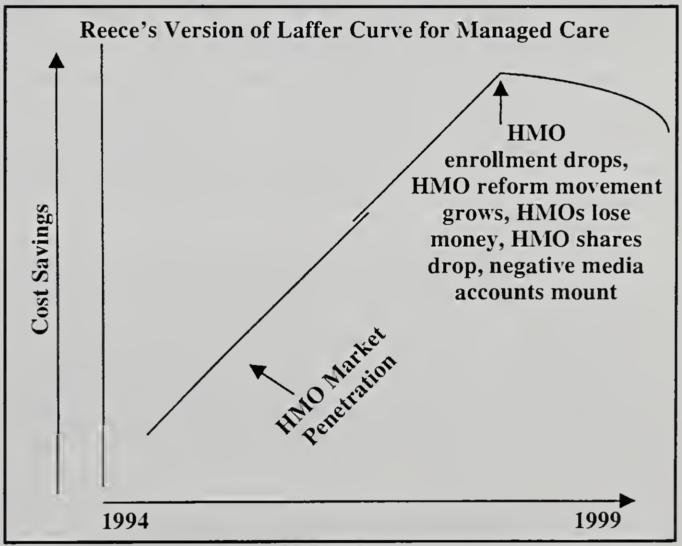


Figure 2.—Increasing enrollment of patients, initial cost savings, then HMO horror stories, premium rises, patient and physician resistance against HMOs, dropping profits and stocks, withdrawal from Medicare and Medicaid markets, disillusionment, lawsuits, and regulation.

RICHARD L. REECE, M.D., Editor-in-Chief, Physician Practice Options, Old Saybrook.

Americans and 60% of Americans overall) at which the public and health-care professionals will begin to resist HMOs. The number of people belonging to HMOs will drop,[1] profitability will erode,[2,3] and HMOs will close.[4]

Public and Physician Hostility to HMOs

The events of 8 October 1999 the day when the House of Representatives voted 271–151 to pass a comprehensive managed-care reform bill amply demonstrated the public distrust of HMOs. The presence of physicians, nurses, and patients in the aisles of Congress prior to the vote aided passage, as did the support of the American Medical Association. The fact that all 12 physician-dentist congressmen, 10 of whom were Republican, voted for the bill also showed the sentiment of health-care professionals against HMOs.

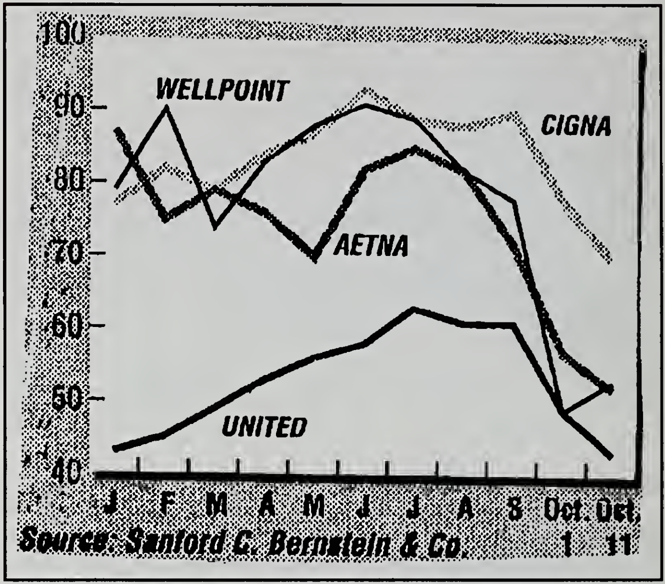
Even before the vote, there were rumbling signs of discontent:

- Sweeping managed-care reform legislation in California and Texas;
- An Illinois Supreme Court decision allowing patients to sue HMOs;
- A class-action lawsuit against Humana for paying doctors and reviewers to deny claims;
- An announcement by anti-tobacco lawyers that HMOs were their next target;
- A fraud suit in Mississippi against Aetna for misleading consumers, maximizing profits, and interfering with the patient-physician relationship;
- A similar class-action lawsuit out of Philadelphia for offering doctors incentives to limit needed care;
- A lawsuit by the Connecticut State Medical Society/IPA Inc against Physicians Health Services, alleging mismanagement and unfair trade practices;
- A statement by Connecticut Attorney General Richard Blumenthal that he would investigate complaints by Connecticut doctors that Aetna, Inc had forced them to choose between economics and quality medical care.

It is probably no coincidence that owners of a large Connecticut HMO, HealthChoice of Connecticut—Yale-New Haven Health System, Yale University, and St. Francis Hospital and Medical Center—let it be known at about the same time, 9 October to be precise, that they were seeking a partner or buyer for the Farmington-based HMO.

Early Signs of HMO Decline

There were early signs that massive discontent existed long before these events. In 1998, movie audiences stood *en masse*, applauded, and cheered at actress Helen Hunt's profane remarks against HMOs in the 1998 movie *As Good As It Gets*. And in 1999, the stock prices of major HMOs were showing the usual rise and fall pattern of the Laffer curve.



Source: Sanford C. Bernstein & Co.

Figure 3.—Stock prices of major HMOs in 1999 through 11 October 1999

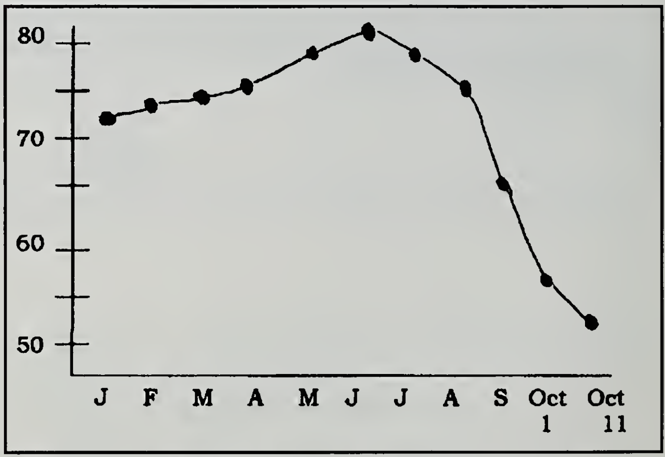


Figure 4.—Average stock prices of Aetna, United, Cigna, and Wellpoint in 1999 show Laffer curve configuration.

Two Views of HMOs—Massive Behavorial Modification *vs* Higher Premiums

There are two sides to the HMO argument—one emotional, that HMOs put profit before care, and the other rational, that HMOs discipline patients and physicians and cut premium costs.

- Mary McGrory, a *Washington Post* columnist, captured the emotional side in this sarcastic editorial following the Senate's endorsement of HMOs: "Health maintenance organizations are proceeding with their massive behavioral modification program with generous help from Republicans in the Senate. The HMOs have been trying to persuade Americans not to get

Table 1.—*Time/CNN* Poll of 1,000 American Adults		
1. Should the government allow patients to select their doctor rather than having one assigned by their HMO?	Yes, 85%	No, 12%
2. Should the government pay for emergency medical care even if the patient did not get permission in advance from the HMO or managed-care provider?	Yes, 77%	No, 17%
3. Should the government allow patients to sue their HMO or managed-care provider for decisions made regarding the patients' medical care?	Yes, 61%	No, 30%

sick, or, if they insist on doing so, to have the decency to drop dead and spare their insurers a great deal of expense."[4]

- Charles N. Kahn, III, President of the Health Insurance Association of America, explains the rational side in an editorial "It's Affordability, Stupid." These are his words; "The truth is that all players acknowledge that 'patient protection' mandates will raise costs.... Ultimately, a single most important 'patient protection' is protection against mandates that drive up cost of coverage."[5]

Pipers Still Calling the Tune

The Pipers, ie, payers and their HMO allies, are still calling the tune. But evidence indicates that HMOs are on the slippery downhill slope of public opinion and that the consumer will drive the HMO bandwagon even further down the slope. A CBS News Poll in mid-July 1999 indicates the public trusts Democrats over Republicans by 49% to 27% to reform HMOs.[6] Furthermore, led by a dentist and three physicians in the U.S. Congress—Drs. Charles Norwood (R) of Georgia, a dentist, Greg Garske (R) of Iowa, Tom Coburn (R) of Oklahoma, and John Cooksey (R) of Louisiana—the House is more likely to pass a compromise bill calling for tougher HMO reform, including the right to sue HMOs. The cliché "managed care doesn't manage and doesn't care" captures America's attitudes about HMOs.

Public's Hardening Attitudes Towards HMOs

The public's attitude towards HMOs is revealed in the 26 July 1999 *Time/CNN* poll (Table 1).

An Even Harsher View by Doctors and Nurses

Doctors' and nurses' views of managed care are even harsher—in a Kaiser-Harvard poll, eight of 10 doctors and nurses said that insurance companies had denied coverage to their patients at some point in the past two years — and that one-third to two-thirds of the patients' health had declined as a result of the decision (Table 2).

Patients and Physicians: Evading Managed Care by Seeking Alternative Forms of Reimbursement

Patients and doctors are beginning to shun HMOs by seeking alternative forms of reimbursement (discounts for cash, global episodes of care, Medical Savings Accounts), by selecting other forms of care (self-care and alternative care), by avoiding health insurance (not because they can't afford it but because other living expenses take priority), and by sticking with the status quo (85% of Medicare recipients have yet to join Medicare HMOs).

Table 2.—Kaiser-Harvard Poll of 1,273 Physicians and 768 Nurses

Percent of doctors who said HMOs initially overruled their medical decisions more than once a month during the past two years.	**Percent of patients whose health declined seriously after they were denied doctor-recommended procedures by the HMO**
Prescription drug, 61%	Prescription drug, 37%
Diagnostic test or procedure, 42%	Diagnostic test or procedure, 39%
Hospital stay, 31%	Hospital stay, 46%
Referral to a specialist, 29%	Referral to a specialist, 50%
Referral for mental health, 18%	Referral for mental health, 65%

Source: Kaiser Family Foundation/Harvard School of Public Health survey of doctors and nurses, July 1999

Table 3.—Number of Articles Containing “Positive” or “Good” News about HMOs *vs* Those Containing “Negative,” “Bad,” or “Neutral” News About HMOs

Number of Articles in File by Time Period	“Positive” or “Good” News about HMOs	“Negative” or “Bad” News about HMOs	“Neutral Articles about HMOs	Percent of “Negative” or “Bad” HMO articles
February, March, April 1998 34 articles	2	27	5	79%
May, June, July 1998 50 articles	3	44	3	88%
August, September, October 1998 63 articles	3	45	5	85%
November, December 1998, January 1999 67 articles	3	59	5	88%
February, March, April 1999 89 articles	5	80	4	90%
May, June, July 1999 208 articles	8	190	10	91%
August, September, and first two weeks of October, 133 articles	8	111	14	83%
Total, 21 months	35	556	46	88%

Negative Perception of HMOs as Revealed by Newspaper and Internet Content

My own research reinforces the notion that public opinion and consumer, patient, and physician resistance will make HMOs increasingly out of favor. From February 1998 through 10 October 1999, each day I have collected “hard” health-care news from the Internet, from four leading national newspapers, and from two regional newspapers. I then analyzed the news content to find the medical and health-care megatrends, a technique used by John Naisbitt in his 1982 classic book Megatrends.[7] (see Table 3)

Politicians Can’t Defy the Law of Gravity of Public Option

I would argue that politicians can’t continue to defy negative public opinion of this magnitude for long. It would be like defying the law of gravity of public opinion. Sooner or later political compromises must be struck to reform HMOs and to restore some rights to patients. These compromises are likely to include independent external appeal boards, loosening of medical necessity restriction, legal liability of HMOs, coverage of emergency room care without prior authorization, and direct access to obstetricians,gynecologists, and other specialists.[8]

Another Trend—Patients Turning from HMOs to the Net

I would also argue that another trend was occurring during the 18-month period from February 1998 to July 1999—the dramatic rush of consumers to the Internet to seek health-care information, partially to avoid asking their doctor and to avoid going through managed-care channels. This rush is reflected in the number of newspaper and Internet articles on the subject (Table 4).

From 1996 to 2000, the number of adults retrieving health information from the Internet soared from 7.8 million to an estimated 33.5 million.[9] For the most part, these consumers were not looking for information about HMOs[10] (Table 5).

Recurrent Managed-Care Themes Stuck in a Groove and Falling on Deaf Ears

Classic managed care.—Companies integrating insurance with health care by herding populations into “integrated delivery systems” accountable for health outcomes —has had its day in the sun, which is beginning to set. Everywhere you look on the horizon, orthodox managed care’s recurrent themes—rationalizing care by measuring quality and outcomes, coordinating care through integrated delivery systems, weeding out excess by total

Table 4.—Newspaper and Internet Articles about Online Health Care

Different Time Periods, Spanning the 18 Months from 1 February 1998 to 1 July 1999	Number of Newspager Articles or Internet News Items Relating to Online Medical or Health Information
February 1998 to December 1998	12, roughly one article each month
January 1999	2
February 1999	3
March 1999	6
April 1999	17
May 1999	35
June 1999	78
July 1999	82
August, 1999	88
September 1999 through October 10, 1999	127

capitated care, and replacing "Mom and Pop" care with industrial strength business models—sound like scratchy records stuck in a groove. The recurrent tunes are falling on deaf ears among providers, and integrated delivery systems offering these services are falling apart in the marketplace. Patients and physicians simply don't trust high-powered business corporations, with highly paid executives at the top, issuing command and control orders from on high, to do the job on the ground. They are particularly skeptical of the notion that you can judge quality by statistics and variation from the mean, rather than on personal reputation and personal encounters.

- Patient and physician resistance has set in on a massive scale (the Patients' Rights movement and physician unionization).
- Global capitation has stalled at 5% of the total market and less than 9% of the physician market.
- Consumers are voting with their feet for "loosely managed care," ie, PPOs and PSOs, rather than "tightly managed care."
- Staff-model HMOs (Kaiser, Harvard-Pilgrim, Group Health Cooperative) have suddenly become dinosaurs (Harvard Pilgrim is dying in the East, and Kaiser has abandoned Dallas and the entire Northeast).
- Large Integrated Delivery Systems (Allegheny, and other hospital-based systems) have either collapsed or stopped growing or stopped making money.
- The Entire Managed-Care Puritanical Theology—limit everything and payers will keep sending employees, and patients will keep coming to church, and physicians will keep quiet because they're either afraid of the big bad devil of inflation or afraid of losing business—isn't working or resonating anymore. Business limits have reached their human limits. People aren't listening to the HMO Gospel: Limit choice by selective contracting, limit access by gatekeeping, limit physicians by preauthorization, protocols, guidelines, fee schedules, limit price by capitation, volume-discount, and limit choice of health plans. People want choice and access, not limits.

Table 5.—Percent of Consumers Retrieving Health-Care Information from the Net

Consumers searching for health information among people who retrieve health information of the net, the percentage of people who look for information are	
Diseases	53%
Diet/Nutrition	36%
Pharmaceuticals	33%
Woman's health	31%
Online health newsletters	31%
Fitness	29%
Children's health	15%
Illness support groups	13%
Health insurer provider sites	13%

The Limits of Intervention

HMOs are plateauing and beginning to decline because they have reached the limits of intervention into patient's lives and into the patient-physician relationships. There are limits to massive behavior modification of patients and physicians by HMOs. People don't want HMOs dictating their behaviorial or health habits; physicians don't want HMOs dictating their practice styles and overriding their clinical judgement. The bloom is off the managed-care rose.

People will change their behavior and so will doctors, but they insist on changing privately, voluntarily, and on their own terms rather than through dictates from above. It's one thing to voluntarily be persuaded to change by a fellow support group member on the Internet. It's quite another to be compelled to change your life style by an HMO news release.

Patient Resistance

Patients are contributing to managed-care decline by:

- Voicing displeasure with HMOs and becoming more assertive in their demands.
- Insisting on seeing his or her own personal neighborhood physician on time and spending more time with that physician.
- Creating a billion dollar prevention and wellness industry on their own—Online health information companies, antioxidant, and vitamin manufacturers; health books and health newsletters, and a booming alternative practitioner industry consisting of massage therapists, acupuncturists, natural physicians, and chiropractors.
- Taking care of themselves and medicating themselves by demanding prescription drugs of their choice from doctors and shopping for drugs from online pharmacies.
- Putting their money into other lifestyle investments—Cars, homes, daily living, and even the stock market rather than health insurance.
- And above all else, educating themselves on health-care matters.

Physician Resistance

Physicians, on their part, are contributing to the health-care managed-care decline by:

- Direct contracting, thereby eliminating HMO middlemen.
- Setting up alternative payments and systems, such as *Simple Care*, a Seattle-based national primary-care plan that offers discounts of 50% or more for office visits and other office expenses in return for cash,[9] or creating their own health plans offering unlimited access to care and guidance through the managed-care maze.[12]
- Joining independent doctor (INDOC) organizations that do not accept HMO payments and who proclaim they practice "unmanaged-care."
- Offering innovative services—home-care house calls, mobile van calls, and "focused factories" treating only one disease in a world-class manner.
- Direct marketing through the Internet and by e-mail.

In the Throes of a Turbulent Transition

We are, in short, in the throes of a turbulent transition to more personal forms of managed-care. Managed care, in its turn, is seeking to reinvent itself and re-engineer its systems and organizations to prevent further decline. Managed care is operating in an increasingly hostile business environment. According to Professor William K. Hall of the University of Michigan and the Harvard School of Business, "hostile business environments" have these characteristics.[13] The examples in italic print are mine.

- *Dramatic dislocation and change, turbulence.*—The collapse of Kaiser in the East and the bankruptcy of Allegheny in Pennsylvania.
- *Intense competition from both traditional and non-traditional competitors.*—The rise of IPA/HMOs and the demand for more access to alternative practitioners.
- *Declining probability and financial instability, high-market volatility.*—The decline in profitability of HMOs, bankruptcies by nursing home chains depending on Medicare, the implosion of the Practice Management Industry.
- *Pervasive uncertainty.*—As Peter Kongstvedt, M.D., senior partner in Ernst & Young in Washington, D.C., said to me "All health care pundits are always wrong."
- *Accelerated service products, career and organizational life cycles.*—Whatever happened to the "gatekeeper system"? To MedPartners?
- *Consolidation, cutbacks, merging, retrenchment.*—More than 50% of Americans are now covered by consolidated national HMOs.
- *Cut-throat competition and market saturation.*—Just watch the academic medical icons hemorrhage from managed-care slashing in such saturated markets as Boston, New York, and Philadelphia.
- *Threatening paradigm shifts.*—The consumer shift to self-care threatens many physicians.
- *Intensified regulatory and social pressures on business and ethical conduct.*—The Federal Trade Commission's campaign against fraud and abuse using paid whistle-blowers are an example.
- *Ethical scandals, sensationalization of fraud and abuse.*—Ask Columbia/HCA about the power of sensationalization to bring down the high and mighty.
- *Widely swinging rates of market growth and decline.*—The health-care industry is still in a state of market shock for the HMOs physician practice management industries.
- *Leadership "scapegoating," shipwrecked, truncated careers.*—Rick Scott, CEO of Columbia/HCA, is a prime case in point.

- *Economic entropy: shrinking and shifting demand.*—Suddenly demand is shrinking and shifting away from hospitals, physicians, and HMOs, as the public becomes obsessed with wellness, prevention, self-education, and self-care.
- *Intensive propaganda from vested interest groups.*—Good examples are the so-far successful efforts of the HMO industry and influential business groups to defeat HMO reform.
- *Resource scarcity.*—Good doctors are still hard to find in rural America.
- *Dramatic market evolution and obsolescence of products.*—Woman physicians will soon make up two-thirds of all obstetricians and gynecologists, and men in this specialty are feeling obsolete.
- *Widespread organizational decline, retardation, stagnation, and atrophy.*—This is happening to staff-model HMOs, academic medical centers, and some hospital-based integrated delivery systems.
- *Dysfunctional personnel turnover, crises of leadership, and crisis management.*—Many large medical groups, particularly in California, are experiencing all these crises.
- *Shakeouts.*—Shakeout time is already here for Medicare HMOs.
- *Blinded leadership mindsets, tunnel vision, myopia, denial syndromes, "groupthink."*—Even the icons are vulnerable. It can happen to you. "Think outside the box," in terms of what consumers want rather than what's convenient and traditional, and you may survive.

Summary and Conclusions

HMOs are in trouble. Their profits are dropping, their public credibility is eroding, and the House of Representative has voted for stringent reform—including access to specialists, the right of the public to sue HMOs for negligent or denied care, the stripping away of ERISA protection, and the right to go to external appeal boards for arbitration of denied claims. At this writing, the negotiated settlement between the House of Representative and Senate versions of Patients' Rights legislation is unknown.

Other developments include:

- Already the HMO industry is responding, to slow or halt its slide down the slope:
- The United Health Group, the nation's second largest HMO covering 14.5 million people in 30 states, has made a preemptive strike in response to growing consumer and physician managed-care backlash. In a bold move on 8 November the big Minnetonka, Minnesota based managed-care company effectively closed its utilization review division. It said its employees would no longer second-guess doctors before approving medical treatments. United said its decision will save $100 million by shedding its small army of people whose main job is to question doctors about clinical decisions. United argues that nine of 10 decisions were approved anyway, so why conduct utilization review at the cost of losing money, infuriating doctors, and frustrating patients. But the day after its announcement that it was dropping utilization review, the first United *caveat* also dropped: it was retaining utilization review for mental health services.
- Two weeks later, on 22 November, Aetna said it might adopt United Health's model. Said Aetna's CEO, Richard Huber "The trend is clear, and we're participating in it. We'd do it in a heartbeat. I genuinely compliment United. It was a good move. Anything that improves the image of the industry is a winner for us. We just weren't as clever as United." Aetna's medical director Arthur N. Leibowitz, M.D., however, qualified its condition for dropping utilization by saying that it would keep control over certain procedures, such as bunion removal, carpal tunnel repair, and hysterectomies in certain markets. Dr. Leibowitz added, "There's not whole lot of value in reviewing everything a doctor does."
- But United's and Aetna's efforts to keep negative HMO images off the front page may be short lived. On 24 November a group of attorneys led by anti-tobacco lawyer Richard Scruggs announced it had filed a lawsuit seeking class-action status against five HMOs, charging them with violating U.S. antiracketeering laws. The HMO defendants included—CIGNA Corp, Foundation Health Systems, Inc, Humana, Inc. Pacificare Health Systems, Inc, and Aetna's Prudential Insurance Company of American—who, combined, provide health care to 32 million people.
- For the past few years, a whole new wave of new managed-care organizational forms has been rapidly evolving. These forms include "direct contracting" with self-funded employers, outcome-based contracting by physician organizations with manufacturers such as GM and Chrysler, business coalitions (the Buyer's Health Care Action Group in Minneapolis-St.Paul being the prime example) bypassing HMOs to deal directly with hospital/physician "entities," and physicians/hospital PHOs contracting directly using global fees for episodes of care.
- Consumer-driven health care has abruptly appeared again on the health-care radar screen. This was first introduced as an integrated concept by Regina Herzlinger, Ph.D., Professor of Business at the Harvard

Business School, in her 1997 book *Market-Driven Health Care* (Addison-Wesley, ISBN 0-201-48994-5), but it has now taken on a new life and new momentum because of the managed-care backlash, the threat of class-action lawsuits, and the backing of powerful American corporations, such as Allied Signal. I explained what is happening in a prediction I made in Physician Practice Options, which read as follows:

Prediction: Employers, weary of having their employees complain of HMOs, seeing their HMO costs rise, and fearing lawsuits when stripped of ERISA protection, will increasingly turn to MSAs, Flexible Savings Accounts, defined contributions, wide choice of plans, voluntary health markets, health-care buying over the Internet, consumer education, and championing of consumer driven health care.

HMO executives: Fasten your seatbelts. It's going to be a downhill bumpy ride. Where it's going and where it will land, nobody knows. These executives may say this curve of mine is no Laffer matter, but for me, the evidence supports the downhill slope theory.

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Emerging Drugs of Abuse in Connecticut

ALAN L. WEINER, M.D.

ABSTRACT—During the past decade, several new drugs of abuse have emerged as public health concerns in Connecticut. These include ketamine, gamma-hydroxybutyrate, methylphenidate (Ritalin®), and "Illy." Two trends stand out when one looks at these new drugs of abuse. First, drugs that have legitimate medical indications are being increasingly diverted for illicit purposes. Second, much of the information needed to acquire, synthesize, and use these drugs can be found on the Internet. While none of these newer agents is abused to the extent of heroin or cocaine, all of them have the potential to cause serious morbidity, and occasionally death. The goal of this article is to make Connecticut physicians aware of these emerging drugs of abuse. Emphasis is placed on recognizing the signs and symptoms produced by these drugs and on managing the complications that are associated with their use.

SUBSTANCE abuse remains one of the most pervasive problems in modern culture. The number of Americans who abuse illicit drugs either habitually or intermittently can only be poorly approximated, but certainly reaches the tens of millions. The terms "illicit drugs" and "drugs of abuse" are used to indicate substances obtained illegally that have no accepted medical value, as well as substances obtained by prescription for unaccepted medical purposes.[1] The abuse of illicit drugs reaches across all socioeconomic and educational boundaries, as documented by numerous epidemiological studies.[1]

Within the past five to 10 years, several new drugs of abuse have emerged as growing public health problems in Connecticut. These include ketamine, gamma-hydroxybutyrate, methylphenidate (Ritalin®), and "Illy." While none of these newer agents is abused to the extent of more established drugs (such as opiates or cocaine), all of them are capable of producing serious morbidity, and occasionally death. In looking at these emerging drugs of abuse, two trends stand out.

First, some of these drugs have legitimate medical uses. Methylphenidate, for example, has been prescribed to millions of American children for the treatment of attention deficit hyperactivity disorder (ADHD). The ease of availability of this drug contributes to its abuse. The second trend seen with these drugs is that much of the information needed to acquire, synthesize, and use them can be found on the Internet. Because there is very little regulation of what is posted on the Internet, a large number of websites have been constructed that are devoted to the abuse of these drugs. These websites frequently glorify the use of these dangerous drugs and downplay the risks that are associated with their use.

The purpose of this article is to make physicians aware of several new drugs of abuse that are emerging in Connecticut. The pharmacology of these drugs, as well as the laboratory techniques that can be used to identify their presence in bodily fluids, are discussed only briefly. Instead, the focus is placed on recognizing the signs and symptoms produced by these drugs and on managing the complications associated with their use.

ALAN L. WEINER, M.D., Attending Physician, Department of Emergency Medicine, Midstate Medical Center, Meriden; Assistant Professor of Emergency Medicine, University of Connecticut School of Medicine; Consulting Toxicologist, Connecticut Poison Control Center, Farmington.

Ketamine

Ketamine hydrochloride, familiar to physicians as a dissociative anesthetic, has been abused as a hallucinogen for almost 30 years. The drug produces effects similar to those of phencyclidine (PCP), but with a much shorter duration of action.[2] In 1996, the Connecticut Poison Control Center began receiving an increasing number of calls from physicians seeking treatment advice for patients presenting to the emergency department following ketamine abuse.

The hallucinogenic effects of ketamine have been attributed to its ability to antagonize N-methyl-D-aspartate (NMDA) receptors in the brain.[3] The effects of the drug are dose dependent. Intramuscular doses of 3 to 4 mg/kg are typically used by physicians and veterinarians to induce conscious sedation. Higher doses can result in respiratory depression, loss of pharyngeal reflexes, and even apnea. The subanesthetic doses used by ketamine abusers result in alterations in mood and body image, "out of body" experiences, sensations of floating, vivid dreams, and illusions.[2] Users refer to these effects as "visiting K-land" or "falling into the K-hole."[2] Unlike the hallucinogenic effects of PCP, the effects of ketamine usually resolve within one hour.[2]

Because it is difficult to synthesize, the ketamine that is used for illicit purposes is almost always diverted from legitimate sources, such as veterinarian offices.[4] On the street, ketamine is known as K, Super K, and Special K. It is available as either a powder or a liquid. A typical recreational dose of ketamine is 100 to 200 mg.[2] Numerous Internet websites contain information on ketamine dosing, as well as the personal experiences of people who have abused the drug. Data collected by the Drug Enforcement Administration indicates that ketamine abuse is increasing.[4] As a result, the DEA has placed ketamine in Schedule III of the Controlled Substances Act beginning in August of 1999.[4] Sixteen states, including Connecticut have previously placed ketamine in Schedule III.[4]

In 1997, the Connecticut Poison Control Center began to collect data on ketamine abusers presenting to state emergency departments.[5] Almost all cases involved young persons, ages 15 to 40 years. Approximately half of these patients stated that they had injected ketamine, the other half stated that they had inhaled ketamine powder. Common presenting complaints included chest pain, palpitations, and anxiety. Many patients were tachycardic upon presentation. Hallucinations were occasionally seen but had usually resolved prior to the patient being evaluated. Rotatory nystagmus, a common finding seen with PCP intoxication, was seen in only three cases. Like the hallucinations, nystagmus may have resolved prior to evaluation. Emergency department treatment of these patients consisted largely of supportive care and sedation when needed. Five patients were agitated enough to require one or more doses of a benzodiazepine for sedation. The most serious complications of stimulant abuse, namely hyperthermia, seizure, and arrhythmia were not seen in any of these patients.

Ketamine abuse should be suspected in patients (especially young patients) who present with agitation, tachycardia, and either visual hallucinations or nystagmus. The absence of these latter two findings does not rule out the possibility of ketamine abuse. Ketamine can be detected in biological fluids using high pressure liquid chromatography which is available through most commercial or hospital based toxicology laboratories. Symptomatic patients are best managed with standard supportive care, as the effects of the drug are usually short lived. Keeping the patient in a quiet environment, with a minimum of external stimuli, may prevent excessive agitation. Benzodiazepines should be used for sedation in agitated patients, as they are at risk for self injury, hyperthermia, and rhabdomyolysis. All patients must be observed until their vital signs and mental status have normalized. Symptoms not improving within two hours of presentation should prompt a search for other drugs of abuse, or some other disease process.

Gamma-hydroxybutyrate (GHB) and Related Compounds

Gamma-hydroxybutyrate (GHB), a potent CNS depressant used widely on the west coast for many years, has recently made it's way to Connecticut.[6] In June, a cluster of GHB-related emergency department visits made newspaper headlines across the state.[6] At about the same time, the state medical examiner reported the first death in Connecticut due to GHB overdose.[7] On the street, GHB is also known as Grievous Bodily Harm, Liquid Ecstasy, and Liquid X.[8] The drug was initially synthesized in 1964 as an anesthetic, but was soon found to have an unacceptably high rate of adverse effects. In 1977, Japanese scientists published a paper theorizing that GHB would stimulate the release of growth hormone in humans. The drug quickly became popular among body builders who took GHB hoping it would increase their muscle mass. As its use spread, the euphoriant effects of the drug soon became evident, and abuse increased. A private company began marketing GHB as a "natural sedative" in 1990, but it was quickly pulled off the market after dozens of cases of severe adverse reactions (including coma and seizures) were reported to the Food and Drug Administration (FDA).[9] Currently, GHB has no legitimate use in medicine. The drug has attracted use as a euphoriant, particularly at dance "raves," as an aphrodisiac, and as a date rape drug.[9]

GHB is a naturally occurring metabolite of gamma-aminobutyric acid (GABA), the primary inhibitory neurotransmitter in the brain.[8] The exact mechanism by which GHB produces CNS depression is unclear although it does not appear to involve the GABA receptor. The GABA receptor antagonist flumazenil has no effect on the CNS depression produced by GHB.[8] The drug is a potent CNS depressant, with rapid onset (15 to 30 minutes) after oral ingestion.[9] Because it has a short half life (<1 hour), the effects of the drug rarely persist more than two to three hours.[8,9] Even low doses of the drug can produce profound CNS depression. Because different formulations of the drug may be of different purity, even chronic users can become severely impaired after only a single dose. The effects of GHB are synergistic with other CNS depressants, especially alcohol. Many of the fatalities reported with GHB involved the simultaneous use of alcohol.[7–9]

Patients who ingest GHB typically present with varying degrees of CNS depression.[8–9] GHB overdose is characterized by the rapid onset of coma and apnea. Mild to moderate bradycardia and hypotension have also been reported following GHB overdose. Symptoms usually improve within two hours, and rarely persist longer than four to five hours. Upon recovering, it is common for patients to exhibit emergence phenomena characterized by myoclonic jerking movements, confusion, and combativeness. GHB should be suspected in any patient who presents with rapidly decreasing consciousness in the setting of suspected drug abuse. As with any patient who presents with CNS depression, the first priority should be meticulous attention to the airway. No effective antidote exists to reverse the CNS depressant effects of GHB.

Symptoms continuing for more than a few hours should prompt a search for other causes of altered mental status. GHB is rarely identified in standard toxicology screens, and management should never be delayed while trying to identify the offending agent. When a definitive diagnosis of GHB toxicity is required, consultation with the hospital toxicology laboratory is recommended. Both high pressure liquid chromatography and gas chromatography can detect GHB in bodily fluids.[10]

GHB has been banned for over the counter sale by the FDA.[9] It has not yet been scheduled federally by the Drug Enforcement Administration (DEA), so simple possession is not a federal crime. Several states have scheduled the drug, further restricting its sale or possession.[11] Beginning 24 August 1999, GHB became a Schedule IV controlled substance in Connecticut. Many Internet sites are available for either purchasing or manufacturing GHB. Most of these sites market their products as "chemistry kits." These are simple kits in which the user combines butyrolactone with sodium hydroxide to form GHB.[11] Doses typically used to induce euphoria are one to three teaspoons of GHB dissolved in water. It is not a federal crime to sell these kits as long as the manufacturer does not market the final product for human consumption.

As more and more states regulate the sale of GHB, manufacturers have begun to market other, unregulated chemicals that produce a similar effect. Gamma butyrolactone (GBL), a solvent widely used in industry, is converted by the body to GHB after ingestion.[12] Compared with GHB, GBL has a quicker onset of action, a longer duration of effect, and produces more profound CNS depression.[11,12] Small errors in dosing can lead to life threatening consequences. Products containing GBL have been associated with at least 55 adverse health effects, including one death.[12] In January 1999 the FDA asked the manufacturers of GBL containing products to voluntarily recall them.[13] To date, there is no state in the nation that schedules or restricts the sale of GBL.

Methylphenidate (Ritalin®)

Methylphenidate (MPH) has been prescribed to millions of American children for the treatment of attention deficit hyperactivity disorder (ADHD). MPH is a psychomotor stimulant that is structurally and pharmacologically related to amphetamines.[14] It has approximately 10% of the potency of amphetamine when it is ingested.[15] Abuse of MPH parenterally, orally, and intranasally has been documented over a period of several decades.[14] The drug was classified as a schedule II agent by the federal government in 1971.[15] Because so many prescriptions for MPH are written annually, it is not surprising that the drug is being abused with greater frequency.

In general, MPH abusers tend to fall into one of two groups. Many of these people use MPH as a mild stimulant, to stay alert, rather than to get high.[15] One or two tablets of MPH are typically ingested to stay awake all night to either study or "party" longer. College students may use the drug while studying at night for a test. The effects of the drug are usually short lived and there is often a let down or "crash" after the effects of MPH wear off. Truck drivers, as well as other people who have to work at night, may also use MPH to stay awake and alert. People who ingest MPH rarely develop serious signs of MPH toxicity, but tolerance and dependence develop with repeated use.[15]

The second group of MPH abusers take the drug to induce euphoria.[14,16] Rather than ingesting the drug, the tablet is typically crushed, and the powder either inhaled through the nose or injected intravenously.[15] This results in a much more rapid onset of action, with peak CNS levels reached in under a minute. The effects seen are similar to those produced by amphetamines. These are the patients who present to the emergency department with the serious complications of MPH toxicity described below. These patients may combine MPH with a CNS depressant such as an opiate or a benzodiazepine to prevent the unpleasant side effects of the drug.[15] Fatalities have been reported following both inhalation and injection of MPH powder.[14,16]

Patients presenting with symptoms of MPH intoxication manifest signs of sympathetic nervous system hyperactivity.[15] The physical examination findings are similar to those seen after cocaine or amphetamine abuse. These include tachycardia, hypertension, diaphoresis, dilated pupils, and agitation. Altered mental status is commonly seen, ranging from mild anxiety to paranoia, hallucinations, and violent behavior. The most severe cases will present with hyperthermia, arrhythmias, and seizures.

The management of the patient presenting with signs and symptoms of stimulant abuse begins with supportive care. Seizures should be managed with benzodiazepines. Arrhythmias are managed in the usual manner, with the exception that beta blockers should be avoided, as their use may cause unopposed alpha-adrenergic stimulation, with a worsening of the patient's tachycardia.[17] Hyperthermia following stimulant abuse can be life threatening and should be managed aggressively with cooling blankets. Patients requiring sedation for severe agitation should be given benzodiazepines until their symptoms have improved. Large doses of these sedatives may be required to calm the agitated patient.[17] All patients should be monitored until their vital signs and mental status have normalized.

"Illy"

"Illy" (sometimes spelled "Illie") is a new and dangerous form of marijuana.[18] These marijuana cigarettes are treated with formaldehyde (embalming fluid), allegedly to enhance their euphoric effects. These cigarettes are often adulterated with phencyclidine (PCP), frequently without the knowledge of the user. The embalming fluid is a vehicle to aid in the uniform distribution of PCP throughout the cigarette. It has been suggested that a marijuana cigarette treated with formaldehyde burns more slowly than a normal cigarette, thus allowing for more time to absorb the cannabis and PCP.[19] Intoxication with Illy produces disorganized thoughts, psychomotor agitation, and stimulation of the sympathetic nervous system, all of which are seen with PCP abuse.[20]

Over the last decade, several similar products, with a variety of colorful names, have appeared across the country.[20] These include "fry" in Texas and "hydro" in New York City. What is most disturbing about these drugs is that in every city where they have surfaced, users were generally unaware that the product contained PCP.[18-20] Some samples of Illy have been found to contain no marijuana at all, just mint leaves treated with formaldehyde and PCP.[20] Elwood interviewed 20 adolescents who abused "fry" in Texas, and found that none of this group were aware that they had been using PCP.[19] All of these patients attributed the hallucinations and violent behavior caused by the drug to the formaldehyde. Illy became recognized as a growing problem in Connecticut in the early 1990s.[21]

Altered mental status is commonly seen after the use of Illy, including paranoia, disorientation, psychosis and hallucinations. The hallucinations caused by PCP are usually visual, with the user describing elaborate arrays of bright colors.[19] The agitation produced by PCP (and Illy) is often waxing and waning, with periodic bursts of violent behavior.[20] Classic signs of stimulant abuse, such as diaphoresis, tachycardia, hypertension, and tremor may also be seen. Nystagmus, especially rotatory nystagmus, is a well-described feature of PCP intoxication. Unlike the effects of ketamine, which usually resolve within one hour, the hallucinogenic effects of PCP can last for several hours or even days.

The use of Illy should be suspected whenever a patient presents with altered mental status in the setting of suspected drug abuse. Visual hallucinations, especially when accompanied by rotatory nystagmus, is virtually diagnostic for PCP. Such patients may state that they were using marijuana, when in fact they were using Illy, without their knowledge. Blood or urine samples taken from such patients may or may not detect the presence of PCP. This is because there are many "designer drugs" that are congeners of PCP; these drugs produce effects similar to PCP but are not detected on a PCP drug assay.[20] For this reason, patients presenting with toxic psychosis and visual hallucinations should be assumed to have used PCP or a similar hallucinogen, whether they test positive for PCP or not.

Patients presenting with complications of Illy abuse may require high doses of sedatives. Either benzodiazepines or the major tranquilizers (ie, haloperidol) may be used. The potential complications of Illy abuse are similar to those seen with other stimulants or hallucinogens. Seizures, arrhythmias, and hyperthermia should be managed as described for methylphenidate above. Prolonged observation may be required until the effects of the drug have resolved.

Conclusion

Several new drugs of abuse have begun to appear in Connecticut over the last few years. While none are as widely used as cocaine or heroin, these newer agents still pose a growing public health problem. All of these drugs have the potential to cause serious morbidity, and rarely, death. Many of our patients have easy access to information about these drugs via the Internet. All practicing physicians must be aware of these emerging drugs of abuse, and be prepared to manage the complications that are associated with their use.

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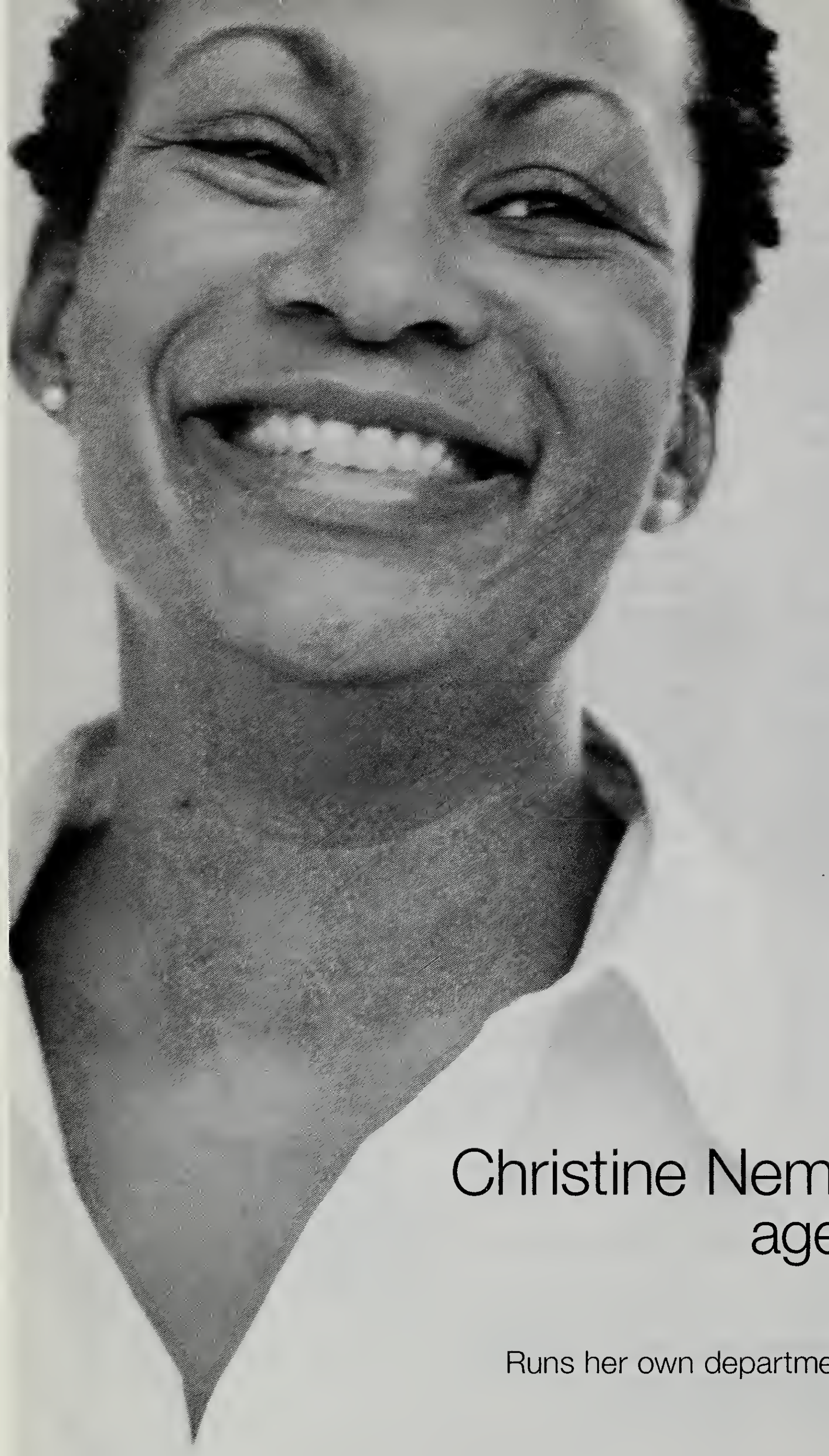

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Abstracts of Presentations at the 1999 Combined Annual Meeting of the Connecticut Chapter of the American College of Surgeons and the Connecticut Society of American Board Surgeons on 16 December 1999

Surgical Oncology Annual Resident Competition.*—Moderator: Robert J. Piorkowski, M.D., Judge: Samuel A. Wells, Jr., M.D., Director, The Center for Clinical Trials and Evidence-Based Medicine, American College of Surgeons.*

1st Prize: Oncology

Clark's Level I and II Cutaneous Malignant Melanoma at St. Mary's Hospital

DANIEL K. WOO, M.D., PETER ZDANKIEWICZ, M.D., MUNIR HAMZI, M.D.,
AND STANLEY J. DUDRICK, M.D.
St. Mary's Hospital — Yale University Affiliate

Introduction: Skin cancer is the most common cancer in the United States. Melanoma is associated with the highest case-fatality rate of all skin cancers. The incidence of melanoma has increased at a rate faster than that for any other cancer. We report updated trends in the recurrence and mortality rate of cutaneous malignant melanoma (CMM) at St. Mary's Hospital among the Greater Waterbury population.

Methods: A cadre of 26 cases of Clark's Level I and II CMM were obtained from a total of 98 CMM patients reviewed during the decade 1988–1998. Gender, race, treatment, recurrence, and mortality rate were determined. Follow-up was measured from the diagnosis to the most recent office visit.

Findings: Eight (30.7%) were women and 18 (69.2 %) were men. All patients were caucasian. Average age at diagnosis was 58.2 years (38 to 92). The treatment consisted of wide excision after initial biopsy, and adjuvant radiation therapy. All patients with wide excision had negative margins. Two (7.7%) of these patients had undergone nodal biopsies which were negative. Five patients (19.2%) had recurrence, one of which underwent radiation therapy but died of heart failure. Two patients (7.7%) had metastases and died from the disease. Average survival time from diagnosis was 5.8 years, ranging from 1.5 to 10 years.

Summary: Over a recent 10-year period, the average age at diagnosis of CMM was 58.2 years, exclusively in the white population. The ratio of males to females was greater than 2:1. The major therapeutic modality was wide excision after initial biopsy, with recurrence and mortality rates of 19.2% and 7.7%, respectively.

Conclusion: Wide excision after initial biopsy of Clark's Level I and II CMM appeared to be the treatment of choice. Nodal biopsies to stage Clark's Level I and II CMM are of little value in terms of overall outcome for mortality rate. The study indicates a high risk of CMM for white patients supporting the need for aggressive preventive health measures.

2nd Prize: Oncology

The Efficacy of Miraluma™ Scans in the Diagnosis of Breast Disease

MARK THOMAS, M.D., M. MICHELE BLACKWOOD, M.D., HARVEY HECHT, M.D.,
JAMES E. BARONE, M.D., SAL DOCIMO, JOELLE ISIDOR, DOUGLAS R. SMEGO, M.D.,
AND ROBERT G. BLABEY, JR., M.D.
The Stamford Hospital/Columbia University College of Physicians and Surgeons

Introduction: Miraluma™ scanning has been recently introduced as a method of cancer detection and the differentiation of benign and malignant breast tissue. The scan is an adjunct to physical diagnosis and mammography. Several recent articles have suggested that Miraluma™ scanning has a specificity of over 90% and negative predictive value of 80% for both palpable and nonpalpable lesions. This study is a review of one hospital's experience with this new modality.

Methods: Miraluma™ is the trade name for technetium 99m sestamibi. Scanning is performed by injecting 30 mCi of isotope intravenously into the arm contralateral to the breast with the suspected lesion.

Results: At present, 224 Miraluma™ scans have been performed. The records of 89 random patients were reviewed. Ten (11%) patients had positive scans suspicious for the presence of carcinoma. Nine had biopsies, with five pathologically confirmed carcinomas. Four patients had benign diagnoses. The patient who did not undergo biopsy has been followed for a year and has not developed carcinoma. There were 79 negative Miraluma™ scans. Of these, 37 (47%) had biopsies. One carcinoma was found, an intraductal carcinoma with microinvasion. At the time of most recent follow-up, all of the negative patients remain free of cancer clinically. Miraluma™ scanning had a sensitivity of 83.3%, a specificity of 93.9%, a positive predictive value of 50%, and negative predictive value of 98.7% and an accuracy of 93.3%.

Conclusions: Miraluma™ scanning has a negative predictive value as good as or better than that seen with both open and stereotactic biopsy. It is particularly useful in the patient who has a nonpalpable lesion of low suspicion.

3rd Prize: Oncology

Merkel Cell Tumors:
A Retrospective Review of the Connecticut State Tumor Registry Data, 1990–1997

SHAWN TITTLE , M.D., J. ALEXANDER PALESTY, M.D., AND STANLEY J. DUDRICK, M.D.,
St. Mary's Hospital—Yale University Affiliate

Background: Merkel cell carcinoma, also known as trabecular carcinoma or neuroendocrine cancer of the skin, is a rare malignancy which has been reported in the literature less than 700 times since 1973, when it was first described by Toker. It generally occurs in individuals between 60 and 80 years of age, has a five-year survival from 30% to 55% and has no known cause. Difficulty in diagnosing the tumor and the tumor's aggressive nature have led to recent examinations of survival after different treatment modalities. The purpose of this retrospective study is to identify the incidence of Merkel cell carcinoma in Connecticut and to determine the treatment with the best survival.

Materials and Methods: The records of 101 patients with Merkel cell carcinoma from the Connecticut State Tumor Registry were reviewed and significant data were retrieved; ie, sex, race, age at diagnosis, site of occurrence, first surgical procedure for treatment, multifocality of tumors, histology, treatment with radiation and/or chemotherapy, and survival.

Results: Of the 101 reported cases, 37 patients are alive. The average age at diagnosis was 74.0 years with a median age of 74.5 years. The average survival was 2.3 years. Fifty-six patients were treated with surgery alone, 18 patients were treated with a combination of surgery and radiation (XRT), five patients were treated with a combination of chemotherapy and surgery, and nine patients were treated with chemotherapy in addition to surgery and XRT. Radiation alone was the mainstay of treatment in only three patients. One patient was treated with chemotherapy alone after a tissue diagnosis was made with an incisional biopsy. One patient was treated with surgery,

radiation, chemotherapy, and hormonal therapy. Five patients had no further treatment after diagnosis with incisional biopsy. Overall length of survival was poor. Patients treated with surgery alone had a mean length of survival of 2.5 years. Subdividing this category, patients who had an excision alone had a mean length of survival of 2.1 years (n=25) and patients who underwent wide local excision had a mean length of survival of 2.7 years (n=25). Patients who received XRT alone had an average length of survival of 0.9 years. Patients who had surgery combined with XRT had a mean length of survival of 1.8 years (n=19). Patients who had surgery combined with chemotherapy had a mean length of survival of 2.6 years (n=5). Patients who had surgery with XRT and chemotherapy had a mean length of survival of 2.5 years (n=9). Surgical therapy with XRT was not associated with increased survival ($P<0.005$).

Conclusion: Merkel cell carcinoma is a biologically aggressive tumor with a highly variable clinical course. Survival is poor and surgery is a mainstay of current therapy. Our data demonstrate that radiation therapy and chemotherapy, either alone, in dual combination, or in combination with surgery, do not significantly increase the length of patient survival over wide local excision alone. This study shows that other than early diagnosis, early aggressive wide local excision of tumor is the most effective method for increasing patient survival. A collaborative prospective study is indicated to evaluate further the impact of treatment modalities on patient survival in this rare but lethal malignancy.

The John D. MacArthur, M.D., Annual Resident Trauma Competition.—
Moderator: Lenworth M. Jacobs, M.D.—Judge: John D. MacArthur, M.D.

1st Prize: Trauma

"Hot Zone" Identification: The Value of Road Crash Data Analysis

ANTHONY J. BROWN, M.D., JAMES E. BARONE, M.D., JAMES B. TUCKER, M.B.A.,
ROBERT E. BLABEY, JR., M.D., AND MARK THOMAS, M.D.
The Stamford Hospital/Columbia University College of Physicians and Surgeons

Background: An apparent increase in the number of road crash victims arriving at our trauma center from a section of highway in a nearby town was noted. We reviewed crash data to determine if any patterns existed and if prevention strategies could be developed.

Methods: We obtained accident summary data covering three years for a 13-mile portion of a four-lane, limited-access highway which opened in 1938 and has changed little in 60 years. The parameters analyzed were crash location, weather and road conditions, direction of travel, time and date, type of crash, vehicle type, apparent cause of crash, injuries sustained, road usage, and average and actual occurrence rates per million vehicle miles.

Results: A 0.5-mile section of the highway was noted to have nearly twice as many crashes and a significantly higher number of rear-end collisions than other sections. The table lists nine intervals (all averaging ~ 45K cars/day) of the highway that had the most crashes and the types of crashes. Highlighted (bold) is the large number of rear-end collisions which occurred at a congested interchange point of outmoded design. Specific measures required to improve this area might include redesign and modernization of the on-and off-ramps. A second area (5–5.49) contains a sharp, poorly banked curve resulting in a high number of crashes into fixed objects. Major reengineering and/or a lower speed limit would be required to correct this.

Mile segment	2.5–2.99	3–3.49	5–5.49	5.5-5.99	6–6.49	8.5–8.99	9–9.49	9.59–9.99	10–10.49
Rear-end	7	14	4	101*	7	22	31	26*	31*
Struck fixed	36	66	93*	53*	36	19	52	16	14
Sideswipe	6	11	4	14	5	10	13	5	5

* < 0.001, Pearson's Chi square, Bonferroni correction

(continued on next page)

In this 13-mile portion of highway, 32% of all injuries and 44% of all severe injuries occurred in the 1.5 mile section from 5.0–6.49 miles.

Conclusion: Analysis of data on file at state agencies can identify locations and types of motor vehicle crashes, which is the first step toward crash and injury prevention.

2nd Prize: Trauma

Follow-up Counseling for Trauma Patients with Concurrent Substance Abuse—The Need for Enforcement

RANDOLPH E. EDWARDS, M.D., PETER ZDANKIEWICZ, M.D.,
STANLEY J. DUDRICK, M.D., AND JOSEPH DINEEN, M.D.
St. Mary's Hospital—Yale University Affiliate

Introduction: Review of the literature on the linkage between trauma and substance abuse consistently reveal a significant association of trauma with alcohol and drug abuse, 52% and 42%, respectively. Numerous studies have recommended that all trauma patients be screened for substance abuse. A recent study, by Danielsson et al, on why trauma surgeons fail to screen for alcohol problems, revealed that 54% of the respondents screened 25% or fewer patients, while only 29% screened most patients. They concluded that the lack of screening and counseling appeared to be due to cognitive factors, not a lack of motivation. The purpose of this study was to evaluate the follow-up counseling rate on trauma patients with positive alcohol and/or urine toxicology screens during a 15-month period.

Method: A retrospective analysis was performed on 248 trauma patients treated in a level-two trauma center over a 15-month period. The serum alcohol and urine toxicology screens were examined and the counseling follow-up rate on positively identified patients was determined and studied.

Findings: One hundred twenty patients (48.4%) were found to have positive laboratory evidence of serum alcohol and/or urine toxicology. Ninety-two (76.8%) of these patients were given in-house substance abuse appointments for subsequent outpatient consultation and counseling. Twelve (13%) of the 92 patients kept their outpatient appointments. Overall, only 10% of the trauma patients identified as alcohol and/or substance abusers were eventually counseled as outpatients.

Conclusion: This retrospective study of trauma patients with positive toxicology screens, at a level-two trauma center, revealed that only a fraction of the patients actually commit themselves to voluntary outpatient counseling and appropriate follow-up. This 10% response to our efforts reveals a serious dilemma for the trauma health-care community. Aggressive enforcement of follow-up should be the rule for any trauma patient in whom substance abuse has been documented.

3rd Prize: Trauma

In Vivo Characterization of the Molecular-Genetic Changes in Gastric Mucosa During the Development of Acute Gastritis and Stress Ulceration

KHALID KHWAJA, M.D., KENNETH NORI, S.S.F., MICHAEL REWINSKI, M.S.,
RICHARD ZEFF, M.D, AND GEORGE PERDRIZET, M.D.
Departments of EMS/Trauma, Surgery and Medicine Hartford Hospital and
University of Conneticut Health Center

Introduction: Trauma patients receiving critical care support are at risk for the development of acute gastritis and stress ulceration. Currently, major clinical efforts are directed at antacid prophylaxis and cytoprotective therapy. Definition of the molecular events associated with this pathologic process will yield a clearer understanding of the nature of the disease and may provide new pathways for drug design.

Objective: To test the hypothesis that the development of stress ulcers in a rodent model will be associated with

increased expression of heat-shock genes and a concomitant repression of both trefoil peptide and mucus gene expression.

Methods: Experimental, small animal model of restraint-induced gastric ulceration. Female, Sprague-Dawley rats (10 weeks of age) were restrained for zero,four, eight, 12 and 24-hour periods of time (n=3 animals/time point). Control animals were handled in an identical fashion except for restraint for each time point. Animals were then sacrificed and the stomachs removed to determine degree of ulceration, graded on a zero to three point scoring system as described elsewhere.[1] The mucosa from the gastric body was rapidly isolated and snap frozen in liquid nitrogen. Samples were thawed and total RNA isolated (one-step Trizol Reagent, GIBCO) to determine expression of the three genes of interest: inducible isoform of 7OkDa heat shock protein (iHSP70), a member of the trefoil peptide family; spasmolytic polypeptide (SP); and a mucin polypeptide (MUC5ac) by standard RT-PCR techniques. Briefly, isolated RNA was converted to cDNA using reverse transcription system(Promega). PCR reactions were initiated with PCR supermix (GIBCO) and specifically designed oligonucleotide primers for HSP70, SP*, MUC5ac genes. Final PCR products were run on 2%, ethidium bromide-stained agarose gels. Total protein was isolated from gastric mucosal cell lysates and proteins separated by one-dimensional SDS protein gel electrophoresis. The proteins were transferred to nitrocellulose membranes and probed with monoclonal antibodies specific for iHSP70 and SP by standard Western blot techniques. Data for ulcer scores are compared between groups using the Student's t-test, significance set at $P<0.05$

Results: The number of gastric ulcers increased in direct proportion to the duration of restraint. Ulcer index was 1.3 ± 0.2, 2.7 ± 0.6, 7.7 ± 3.8, 9.0 ± 1.7 and 18.3 ± 4.0 for the zero, four, eight, 12, and 24-hour time points respectively. Gastric ulcer development was preceded by a strong induction of iHSP70 mRNA at four hour time point and accompanied by decreased SP and MUC5ac mRNA at the 24-hour time point.

Conclusion: The duration of acute physiologic stress in this rodent model is directly related to the severity of stress ulcer development in vivo. The gross anatomic changes are preceded by an upregulation of iHSP7O gene-expression followed by a downregulation of SP and MUC5ac gene-expression. The acute cellular stress response may inhibit important cellular functions and thereby contribute to disease pathogenesis. Regulation of heat-shock gene expression may provide a molecular mechanism by which to direct future therapies in critically ill patients.

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* A generous gift from Dr. Daniel K Podolsky, Mass. General Hospital, Boston, Massachusetts.

Papers and Controversies.—Moderator: Steven T. Ruby, M.D., Professor of Vascular Surgery, University of Connecticut School of Medicine.

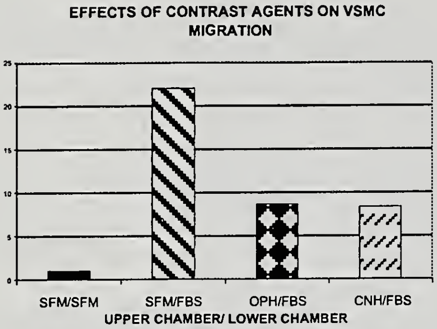
Contrast Agents Decrease Vascular Smooth Muscle Cell Migration and Activate P38

HOPE RASQUE, M.D., AYDIN S. DUZGUN, M. D., STANLEY J. DUDRICK, M. D.,
AND BAUER E. SUMPIO, M.D.
St . Mary's Hospital—Yale University Affiliate
Yale University School of Medicine, Department of Surgery

Introduction: Contrast dyes are used in multiple diagnostic procedures and are known to have various side effects including pain, hemolysis, hypotension, thrombosis, and even cardiac arrest. It is thought that the hyperosmolarity of these agents is involved in these adverse effects, but it remains uncertain what pathophysiologic mechanisms are involved. Previously in our laboratory, it was shown that brief exposure to contrast agents caused a significant decrease in vascular smooth muscle cell (VSMC) proliferation for as long as seven days. Because p38 signal transduction pathway plays an instrumental role in cellular proliferation, migration, differentiation, and responses to environmental stresses, we investigated the effects of contrast agents on SMC migration and assayed for the activation of p38.

Methods: Cultured bovine aortic SMC were exposed to 350mOsm ionic (iothalamate meglumine) or nonionic (ioversol) contrast agents. Migration of SMC was then assessed using a modified Boyden chamber with 10%

fetal bovine serum as the positive control and serum free media as negative control. Activation of p38 was evaluated by Western blotting.



Results: Both contrast agents significantly decreased migration of VSMC. The ionic agent (iothalamate melglumine) decreased migration by 62.7% at 350mOsm (P=0.0025, n=3). The nonionic agent (ioversol) decreased migration by 60% at 350mOsm (P=0.0006, n=3). P38 was activated by the 350mOsm condition of each contrast agent. Ioversol demonstrated a 30-fold increase and peak activation at 10 minutes (n=3). Iothalamate meglumine demonstrated a 15-fold increase and peak activation at two minutes (n=4).

Conclusions: Exposure to contrast agents decreased migration of vascular smooth muscle cells in vitro. This effect may be associated with pathophysiologic events seen with contrast agents in vivo. The activation of p38 suggests that the MAPK signal transduction pathway may be involved in the alteration of VSMC migration associated with contrast exposure.

Three-Years Experience With the Use of Infrainguinal Endovascular Stent Placement for Limb Salvage in Lower Extremity Ischemia

CAROL SAWMILLER, M.D., J. ALEXANDER PALESTY, M.D., AND GIUSEPPE TRIPODI, M.D.
St . Mary's Hospital—Yale University Affiliate

Introduction: Treatment for symptomatic occlusions or stenoses of peripheral arteries includes surgical arterial bypass procedures, atherectomy, balloon angioplasty, and angioplasty with endovascular stent placement. There is a population of patients with infrainguinal peripheral vascular disease who are not candidates for bypass surgery due to the extent of disease or comorbid conditions. Amputation may be the only option for these patients. The role of angioplasty in the treatment of peripheral vascular disease has been rapidly expanding over the last five years, and angioplasty with stent placement is now an accepted treatment for selected patients with iliac arterial disease. The efficacy of angioplasty with endovascular stent placement for arterial disease distal to the iliac arteries has not been previously published, but may prove beneficial in limb salvage in certain groups of patients.

The purpose of this study is to report the initial success rate in a series of patients treated with infrainguinal endovascular stent placement for limb salvage, to clarify the indications for this procedure, to identify better the group of patients most likely to benefit, and to evaluate the associated morbidity and mortality.

Methods: From 1997 through 1999, 47 patients were treated with infrainguinal angioplasty and endovascular stent placement for symptomatic peripheral vascular disease. Patients' preoperative symptoms were classified according to Fontaine's classification, and ankle-brachial indices (ABI) were obtained. Arterial disease was analyzed according to the 1993 American Heart Association Task Force Guidelines. All procedures were performed in the operating room by a single surgical group and Palmaz or Wallstent endovascular stents were used. Clinical results were analyzed for improvement in ischemia, hemodynamics, and vessel patency using the criteria of the Ad Hoc Committee on Reporting Standards, SVS/ISCS. Clinical success required improvement in at least one category of ischemic symptoms. Hemodynamic success was determined by a postprocedure increase in the ABI of greater than 0.15. For consistency all patients were evaluated postoperatively by the primary surgeons.

Findings: Preliminary results based on 29 stents placed in 23 patients show no perioperative deaths. The mean age of the patients was 72 years, (53 to 85). Males comprised 70% of the patients. Ten stents were placed in the femoral artery, 12 in the popliteal, three in the tibial-peroneal trunk, three in the peroneal artery, and one in the posterior tibial artery. The initial overall success rate was 95%. Success was determined as the placement of the stent resulting in hemodynamic improvement intraoperatively. Failure was due to inability to pass the guidewire. Complications occurred in 4%. Eighty-two percent of patients with successful stent placement had clinical or hemodynamic improvement at follow-up. The most significant improvement occurred in patients with stent placement for superficial femoral artery disease. The patency rate at an average of eight months follow-up was 90%. Patency was not adversely affected by placement of multiple stents.

Summary: Angioplasty with stent placement for infrainguinal arterial disease results in significant clinical and hemodynamic improvement. Procedure related morbidity was comparable with the reported morbidity associated with angioplasty alone. Amputation of digits or limbs may be delayed or avoided. The group of patients most likely to benefit from this intervention are patients with limb threatening ischemia secondary to femoral or popliteal arterial disease who are not ideal operative candidates for bypass surgery.

Conclusion: Angioplasty with stent placement for infrainguinal arterial disease does have a role in the management of peripheral vascular disease. This role needs to be more clearly defined. Longer follow-up is necessary to determine the true benefits of this treatment. Larger, prospective, randomized studies are required to establish the specific indications and identify the group of patients most likely to benefit long term from this intervention.

Pediatric Surgery Papers Competition.—Moderator: Robert J. Touloukian, M.D., Professor of Surgery in Pediatrics, Yale University School of Medicine.

Prize Winner

Minimally Invasive Repair of Pediatric Pectus Excavatum Deformities: A New Approach

PETER C. WU, M.D., GEORGE E. McGOWAN, M.D., AND DONALD W. HIGHT, M.D.
Connecticut Children's Medical Center—Department of Pediatric Surgery/Urology

Introduction: Pectus excavatum causes significant psychological and social problems in children, and in severe cases can lead to pulmonary and cardiac symptoms. Traditional surgical repair involving cartilage resection was often reserved for only severe cases. More recently, a minimally invasive technique has been described whereby a convex steel bar is inserted across the mediastinum under the sternum to correct the chest wall defect. We describe our institutional experience with this minimally invasive repair and compare our results with the traditional Ravitch repair.

Methods: During the period February 1998 to June 1999, 13 patients (12 males, one female) with a mean age of 13.2 years (range: seven to17 years) underwent minimally invasive repair of pectus excavatum. Prior to this, six patients (two males, four females) with a mean age of 11.4 years (range: four to 16 years) had traditional Ravitch repairs performed. Medical records were reviewed for operative criteria, complications, and results.

Results: Thirteen children underwent minimally invasive repair for moderate-severe chest wall deformity with a mean operative time of 1.8 hours, mean blood loss of 27 ml, time to tolerating regular diet of 2.3 days, mean ICU admission of zero days, and mean length of hospital admission of 5.2 days. Prior to this, six children had Ravitch repairs performed for moderate-severe deformity with a mean operative time of 5.2 hours, mean blood loss of 222 ml, time to tolerating regular diet of 3.3 days, two patients admitted to the ICU, and mean length of admission of 4.5 days. Complications for both procedures consisted mainly of postoperative pneumothorax. The minimally invasive repair resulted in significantly less operative time, less blood loss, faster time to regular diet, and no major complications.

Conclusions: The minimally invasive technique for pectus excavatum repair is less invasive, less morbid, better tolerated, and results in fewer complications than reported for traditional Ravitch repair of this common pediatric chest wall deformity. Elective surgical reconstruction can be safely performed in children rather than limiting repair to only symptomatic patients with severe deformities.

Plastic Surgery Papers Competition.*—Moderator: Stephen V. Flagg, M.D., Assistant Clinical Professor of Plastic Surgery, Yale University School of Medicine, President, Connecticut Society of Plastic and Reconstructive Surgeons.*

Prize Winner

The Use of Microdialysis to Measure the Metabolic Effects of Ischemic Preconditioning on Skin Flaps in a Rat Model

J. ALEXANDER PALESTY, M.D., RON P. CHAO, M.D., STAPHAN ENOKSSON, M.D.,
SYED A. AHMED, M.D., MICHAEL CENTRELLA, M.D., THOMAS L. McCARTHY, M.D.,
RIYATARO MINE, M.D., KHALIQUE ZAHIR, M.D., AHMED OMAR, M.D.,
STEPHANE A. BRAUN, M.D., KENT T. TA, M.D., AND J. GRANT THOMSON, M.D.
Yale University—Section of Plastic Surgery and
St. Mary's Hospital Department of Surgery—Yale University Affiliate

Introduction: During free tissue transfer, prolonged or repeated ischemic insults sometimes occur as a result of complications or delay in surgery. Currently, there is no monitoring device that has proven reliable in clinical practice. A sensitive and specific method of detecting early flap ischemia could potentially increase the salvage rate of failing flaps. Microdialysis is an established technique in metabolic research used to monitor changes in the concentration of various metabolites in the extracellular fluid. The goal of this study was to determine if microdialysis could predict flap ischemia by measuring extracellular levels of glucose and lactate in ischemic flap tissue.

Methods: Under sterile conditions, skin flaps were created on the dorsal skin of six Sprague-Dawley rats based on the iliolumbar artery ad vein. The flaps were immediately sutured to their original beds, with the skin being left open at the level of the pedicle to allow access for clamping. Microdialysis probes were then inserted into the dermis of three areas of the rat: control skin, the ischemic portion of the flap, and the well-vascularized portion of the flap. Using microdialysis, measurements of glucose and lactate were begun one hour after the probes were inserted. The artery of each flap was then occluded for one hour. Another one-hour collection for multiple analysis was then performed. The arteries were then released and flaps were allowed to reperfuse for one hour. A one-hour dialysate was again performed. The same procedures were repeated after the occlusion and release of the venous clamp to each flap. Laser Doppler measurements were performed concurrently. Mean levels of glucose and lactate were calculated as a function of time, and were compared with laser Doppler readings.

Results: Levels of both metabolites gathered from the control skin remained relatively constant as compared to the well-perfused area of the skin flap. The well-perfused area of the flap showed a fall in the level of glucose (by one half), and a rise in lactate (three times) during arterial occlusion. This was also observed during the venous occlusion, but with less amplitude. Metabolite concentration in the poorly perfused portion of the skin flap did not correlate well with arterial or venous occlusion. The Doppler values dropped with arterial occlusion, but correlated poorly with venous occlusion.

Summary: Developing flap ischemia is associated with changes in lactate and glucose tissue concentration. Based on a relatively small sample size, this pilot study has demonstrated that the use of microdialysis enables us to detect these changes at an early stage of the ischemic process. In the next phase of this experiment, sensitivity and specificity will be measured and compared with clinical monitoring.

Conclusion: While laser Doppler has a low accuracy in indicating ischemia (especially venous occlusion), microdialysis is a promising new technique that may allow rapid real-time flap monitoring with high sensitivity and specificity.

Abstracts of Posters

1st Prize: Poster

Focal Adhesion Kinase is Involved in Thrombospondin-1 Induced Cell Migration

XIU-JIE WANG, M.D., EMERY L. CHEN, B.S., ALIRIC I. WILLIS, M.D.,
STANLEY J. DUDRICK, M.D., BAUER E. SUMPIO, M.D., AND VIVAN GAHTAN, M.D.
St. Mary's Hospital—Yale University Affiliate—Yale University School of Medicine

Introduction: Vascular smooth muscle cell (VSMC) proliferation and migration is important in the development of atherosclerosis and intimal hyperplasia. Thrombospondin-1 (TSP-1), an extracellular matrix protein present in those lesions, is known to stimulate vascular SMC proliferation and migration. Our laboratory has been focused on the mechanisms involved in TSP-1 mediated migration. However, the mechanism by which TSP-1 stimulates VSMC migration is unknown. We found that TSP-1 activates cell signaling proteins associated with migration including focal adhesion kinase (FAK). We hypothesize that FAK is important in TSP-1induced VSMC migration.

Methods: To study migration, a modified Boyden chamber was used. VSMC were transfected with FAK(wt) (FAK wild type, 3 mg/mL), F397 (dominant negative mutant of FAK, 3 mg/mL), or pcDNA (vector control, 3 mg/mL) and b-Gal (transfection efficiency marker, 0.6 mg/mL) plasmids in lipofectamine (transfection vehicle, 12 mg/mL, ~50% transfection rate). TSP-1 (20 mg/mL) or serum free medium (SFM) was placed in the bottom chamber and 50,000 transfected quiescent VSMC were placed in the top chamber. Migrated cells were stained with eosin for total cells and x-Gal for transfected cells. Results were recorded as the number of migrated VSMC per five fields (400x) and analyzed by paired t-test.

Findings: TSP-1 induced significant migration in all groups that were exposed to TSP-1, except for F397 transfected cells alone ($P<0.05$). There were no significant differences among the total cell groups in response to TSP-1.

Summary: VSMC transfected with F397, a dominant negative mutant of FAK, inhibited TSP-1-induced cell migration.

Conclusions: This study suggests that TSP-1-induced VSMC migration is mediated in part by FAK.

2nd Prize: Poster

Routine Preoperative Pulmonary Artery Catheterization: A Meta-Analysis

DENNIS. RASSIAS M.D., JAMES E. BARONE, M.D., PHILIP R. CORVO, M.D.,
HUSSEIN MAZLOUM, M.D., AND JAMES B. TUCKER, M.B.A.
The Stamford Hospital/Columbia University College of Physicians and Surgeons

Background: Despite widespread use, pulmonary artery catheterization (PAC) has not been proven to reduce complications or mortality. One study supported routine preoperative PAC in moderate risk vascular surgery patients; several small studies have reported PAC is not efficacious. Our goal was to scrutinize the data using meta-analysis.

Methods: Medline was searched for all articles on PAC, optimization, oxygen delivery, and preoperative preparation of vascular surgery patients. Data from papers judged appropriate for inclusion were analyzed using a computer program. Complications were defined as only those which could have reasonably have been prevented by or resulted from PAC.

Results: Of hundreds of possible papers, only five were found to be adequate randomized prospective studies with similar exclusions, therapeutic endpoints, and interpretable complication and mortality rates. Controls included 227 patients *vs* 260 in the protocol group.

Power analysis showed the combined sample sizes were adequate. The meta-analysis demonstrates the studies are homogeneous. The use of a PAC does not prevent morbidity or mortality. Rather, its use results in a trend toward more complications and deaths. Of the three studies providing data on amount of IV fluids, two reported statistically significantly more IV fluids were administered to patients who had PACs.

Conclusion: Meta-analysis indicates that in moderate-risk vascular surgery patients, routine preoperative PAC use is not associated with improved outcomes but does increase the amount of IV fluid administered.

3rd Prize: Poster

An Evaluation of Wound Dressing Choices by Plastic Surgeons

RON P. CHAO, M.D., J. ALEXANDER PALESTY, M.D., AHMED SYED, M.D.,
KENT T. TA, M.D., RIYATARO MINE, M.D., STEPHANE A. BRAUN, M.D.,
AND J. GRANT THOMSON, M.D.
Yale University Section of Plastic Surgery and St. Mary's Hospital Department of Surgery

Introduction: Throughout history man has been in search of the ideal medium to assist the body in the process of wound healing. Our modern understanding of the basic physiology of wound healing has resulted in the development of scientific principles for wound management and a wide abundance of different dressing types. The goals of this study were to: 1) determine the most frequent dressing choices for surgical wounds encountered in various clinical situations and 2) determine the rationale behind these choices.

Methods: A questionnaire with a list of 17 different types of wounds was generated and sent to 500 plastic surgeons (10 surgeons from each of the 50 states as documented in the ASPRS membership guide). Participants were asked to choose from 16 different dressings with which to treat the listed wounds. They were also asked to justify their dressing choice and to document if there were any known rates of infection associated with particular dressing types. Demographics collected consisted of gender, age, board certification, practice type, and practice focus. Results were analyzed using chi-squared tests.

Results: There was a 21% (n=103) response rate to the questionnaire. Eighty-eight percent of respondents were male and 12% female. The majority of respondents were board-certified practitioners in solo general practice. Depending on the wound type, there was a different consensus as to the most effective dressing. The majority of surgeons agreed that pressure sores required a moist healing environment, and depending on the stage of the ulcer, recommended either hydrocolloid or simple wet dressings. Surgical sites were dressed with dry sterile dressings except on the face and hands where fine mesh impregnated dressings were used. Ischemic ulcers, necrotic wounds, and failing flaps were dressed with antibiotics (ie, Bacitracin, Silvadene, etc). The overwhelming reason for dressing choices was empirical evidence as opposed to scientific evidence. There were no regional differences in dressing choices.

Summary: Most plastic surgeons choose wound dressings for a given clinical situation based on experience and empirical evidence. This may simply reflect the possibility that there is a lack of scientific evidence demonstrating that one type of dressing is superior to another. It also may relate to the apprentice nature of surgical training. The exception to these results is the burn wound for which most plastic surgeons questioned stated that the reason for their specific choice in dressing was because of scientific data.

Conclusion: Based on these results, more wound research is needed to allow dressing choices to be made based on scientific evidence, and we encourage surgeons to seek out a more scientific basis for their dressing choice so that wound healing may be optimized.

Optimizing Oral Dosing and Monitoring of Noncardiac Toxicities with Chronic Amiodarone Therapy

JAMES P. TSIKOURIS, PHARM.D., C. MICHAEL WHITE, PHARM.D.,
AND JEFFREY KLUGER, M.D.

Background

AMIODARONE, a class III antiarrhythmic agent, has emerged as a primary option in the treatment of cardiac arrhythmias. In contrast with other antiarrhythmic agents, the utilization of amiodarone for atrial and ventricular arrhythmias has increased markedly (94% increase from 1992 to 1993 alone).[1] This increased utilization is attributed to documentation of beneficial effects in patients with tachyarrhythmias and the lower risk of proarrhythmia (polymorphic ventricular tachycardia) as compared to other class I and class III antiarrhythmics. The Canadian Trial of Atrial Fibrillation investigators (CTAF) have presented preliminary results suggesting that amiodarone is superior to other commonly used antiarrhythmic agents for maintaining sinus rhythm in patients with atrial fibrillation.[2] Also, the European Myocardial Infarct Amiodarone Trial (EMIAT) demonstrated decreased arrhythmogenic mortality but not overall survival postmyocardial infarction among patients given amiodarone.[3]

Unfortunately, with increased usage comes the risk of adverse events. The potential for noncardiac toxicities, which are usually dose-dependent, is of particular concern.[4,5] It is estimated that as many as 80% of patients taking amiodarone will experience drug-related adverse effects.[6] Therefore, appropriate dosing and monitoring are critical in establishing the optimal use of amiodarone.

This article will review the chronic oral dosing of amiodarone for managing cardiac arrhythmias and minimizing the frequency of noncardiac adverse drug events. Also, appropriate monitoring of potential organ toxicities will be discussed.

Chronic Oral Dosing

Because many of the adverse events associated with amiodarone are believed to be dose-related, the lowest effective dose should be given in order to minimize side effects.[7,8] The dosage of amiodarone depends on the severity of the arrhythmia and response to therapy.[6] A number of clinical trials have established the optimal dosage of amiodarone in the setting of different cardiac arrhythmias.

The CTAF study evaluated patients with symptomatic chronic atrial fibrillation (AF). Half of all patients had paroxysmal AF while the other half had persistent AF. In this study patients receiving amiodarone 200 mg daily remained in sinus rhythm longer than those receiving conventional therapy with sotalol or propafenone (340 days *vs* 270 days, respectively, $P<0.05$), with 69% of patients receiving amiodarone in sinus rhythm at one year *vs* 39% of patients receiving conventional therapy ($P<0.05$). Amiodarone use also resulted in a smaller discontinuation rate due to adverse events than conventional therapy. The most common adverse events associated with amiodarone use being pulmonary abnormalities (2.5%) and hypothyroidism (1%). Overall, data from the CTAF study establishes low dose amiodarone as a first line agent for maintenance of sinus rhythm in patients with paroxysmal and persistent AF.[1]

Clinical trial evidence suggests that low-dose amiodarone is also efficacious in the management of refractory ventricular arrhythmias.[8] One comprehensive analysis compared five studies using high-dose amiodarone (400–600 mg/day) with five studies using low-dose amiodarone (200–300 mg/day) and found no difference in the efficacy of this agent for the management of ventricu-

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JAMES P. TSIKOURIS, PHARM.D,.Cardiovascular Therapeutics Fellow, Hartford Hospital; Adjunct Clinical Professor, University of Connecticut, School of Pharmacy, Storrs; C. MICHAEL WHITE, PHARM.D, Assistant Professor of Clinical Pharmacy, University of Connecticut, School of Pharmacy, Storrs and Co-Director of Arrhythmia and Cardiovascular Pharmacology Research, Drug Information Center, Hartford Hospital, Hartford; JEFFREY KLUGER, M.D., Director of Cardiac Arrhythmia Service and Cardiac Intensive Care Unit, Hartford Hospital, Hartford.

The series of Drug Information Updates from Hartford Hospital are provided by the Drug Information Center, Department of Pharmacy Services, Hartford Hospital. Editor: Robert A. Quercia, M.S., R.Ph., Moses Sing Sum Chow, Pharm.D. Editorial Board: D. Drezner, M.D., G. Gousse, M.S., R.PH., R. Quintiliani, M.D., J. Laut, M.D.

lar arrhythmias.[9] This analysis found patients receiving low doses of amiodarone experienced fewer tolerable and intolerable adverse effects.

Due to the complex pharmacokinetics of oral amiodarone and the life-threatening nature of ventricular arrhythmias, it is commonly recommended that treatment be initiated in a loading fashion of 800–1,600 mg/day for one to two weeks. The dosage is then tapered to 600–800 mg/day over approximately one month. Depending on the response, a final maintenance dose of 200–400 mg/day could be sufficient to maintain sinus rhythm with a lower incidence of adverse events than with higher doses.[10] Oral loading of amiodarone for the management of atrial fibrillation has been explored in uncontrolled studies, however the utility and safety of oral loading in these trials were not definitive. The controlled trial conducted by the CTAF investigators utilized a 10 mg/kg/day loading regimen for at least 14 days before switching to the long-term maintenance dose of 200 mg daily.[1] This initial loading regimen appeared to be well tolerated.

Adverse Effects and Monitoring

Amiodarone is associated with a number of serious adverse effects that require close monitoring. Numerous studies have explored the need for intense frequent monitoring of adverse effects related to amiodarone therapy. However, no clear-cut guidelines exist. The following section includes a discussion of the common adverse events including their features, frequency, and suggested monitoring of amiodarone therapy based on available clinical data (See Table 1).

Thyroid Abnormalities.—Thyroid toxicity is one of the most commonly associated adverse events of amiodarone therapy, occurring in as many as 30% of patients, with clinically significant thyroid dysfunction in up to 10% of patients.[11] Both hypothyroidism and hyperthyroidism are commonly observed. The effects of amiodarone on thyroid function are secondary to either the iodine content of the drug or a direct toxic effect on the thyroid gland, which can result in increased serum levels of thyroxine (T4) and reverse triiodothyronine and a decrease of triiodothyronine (T3).[12,13] Female gender, increasing age, and underlying thyroid dysfunction all predispose patients to amiodarone related thyroid toxicity.

Monitoring for thyroid toxicity should include following clinical signs/symptoms and laboratory findings consistent with hypothyroidism and hyperthyroidism. The response of the cardiovascular system is the primary area to monitor. Specifically, patients who are hypothyroid will exhibit significant bradycardia and lethargy. On the other hand, marked tachycardia is usually consistent with hyperthyroidism. However, due to the antiadrenergic effects of amiodarone, this clinical sign is often masked. Definitive diagnosis of thyroid dysfunction involves the laboratory monitoring of thyroid function tests (T3, T4, and TSH levels). In most clinical trials thyroid function tests were performed at baseline and every three to six months during amiodarone therapy, and should be conducted accordingly in clinical practice.[14,15]

Hepatotoxicity.—Elevated liver function tests (LFTs), specifically aminotransferase and alkaline phosphatase, are relatively common with amiodarone therapy, occurring in 4% to 25% of patients.[6] Also, increases in bilirubin and ammonia levels have been observed.[16,17] The onset of hepatotoxicity usually occurs after several months of therapy, however it can be seen as early as one week from the initiation of amiodarone. Rises in LFTs are usually mild, transient, and return to normal after discontinuation of the agent. Fulminant hepatotoxicity is rare, however it can be fatal.

Physicians and other health-care practitioners should be aware of the clinical signs and symptoms of hepatotoxicity including nausea and vomiting, anorexia, jaundice, weight loss, and hepatomegaly. Elevation of LFTs is commonly asymptomatic and although rare, the progression to fulminant hepatotoxicity can be life threatening

Table 1. —Common Organ System Toxicities and Recommended Monitoring

Organ System Toxicity	Incidence	Recommended Monitoring
Hepatotoxicity	4% to 25%	LFTs at baseline and every 3 to 6 months
Thyroid toxicity	30%	Thyroid Function tests at baseline and every 3 to 6 months
Pulmonary toxicity	>400 mg daily = up to 17% $<$400 mg daily ≤ 2%	Chest x-ray at baseline, every 6 months, and with clinical signs or symptoms
Ocular toxicity	Lamellar microdeposits = 60% to 100% Retinopathy ≤ 2%	Ophthalmologic testing at baseline, and every 12 months

and rapid. Therefore, routine liver function testing should be performed at least every three to six months after initiating amiodarone therapy.[14,15]

Pulmonary Toxicity.—Amiodarone-induced pulmonary toxicity is the most notorious and life-threatening noncardiac adverse effect associated with this agent. Pulmonary toxicity with amiodarone appears to be dose related. Early reports estimated that pulmonary toxicity occurs in up to 17% of patients.[18] More recently, due to the trend toward utilizing chronic doses of 400 mg or less, reports suggest that the incidence of pulmonary toxicity is no more than 2%.[4,5] The mortality rate in patients who experience amiodarone-induced pulmonary toxicity is approximately 10%.[18–20] Pulmonary toxicity usually occurs six months to two years after initiating amiodarone therapy, with the majority of cases seen in the first year. However, this adverse event can be seen as early as days after initiating therapy.[21]

Amiodarone-induced pulmonary toxicity usually presents as interstitial pneumonitis, which is insidious in its onset and is associated with nonspecific pulmonary manifestations such as dyspnea, cough, fever, fatigue, pleuritic pain, and even respiratory failure. Chest x-ray may show diffuse interstitial infiltrates, or extensive pulmonary fibrosis. Pulmonary function testing shows a decrease in total lung capacity. Due to the rapid onset of this disorder, routine chest x-ray and pulmonary function testing are often not helpful, however serial chest x-rays are recommended at six-month intervals and when clinical signs or symptoms present. Instead, awareness of the clinical manifestations by health practitioners and patients is more critical to the early diagnosis of amiodarone-induced pulmonary toxicity.

Once the diagnosis is made, discontinuation of the agent is recommended. If diagnosed early, discontinuation of amiodarone results in improvement within one week, with radiographic improvement at two to four months.

Other Noncardiac Toxicities.—A number of other noncardiac toxicities are associated with amiodarone use, including ocular, dermatologic, and gastrointestinal adverse events. Ophthalmologic adverse effects have been reported in up to 60% to 100% of patients taking amiodarone.[22] The most common ophthalmologic findings include corneal epithelial and lens opacities, secondary to lamellar deposits which usually develop two or more months after starting therapy. Ocular microdeposits rarely require discontinuation of amiodarone, and will resolve within months after cessation of therapy. Other rare ophthalmologic adverse effects causing some degree of visual disturbance include photophobia, visualizing colored rings around lights, and retinopathy. Although rare (less than 2%), retinopathy is ominous and requires discontinuation of therapy and more diligent ophthalmologic examinations. Specialized ophthalmologic testing should be performed at baseline and every 12 months with chronic amiodarone therapy.[23]

Dermatologic toxicities, including photosensitivity and blue-gray skin discoloration, have been reported in up to 10% and 5% of patients taking amiodarone, respectively.[23] Photosensitivity is dependent upon the amount of exposure to sunlight, and can be prevented by wearing sunscreens (opaque preferred), protective clothing, and minimizing exposure to sunlight. The occurrence of blue-gray skin discoloration depends on the degree of sunlight exposure, as well as the presence of fair skin complexion. The most commonly affected areas of the body are those most often exposed to sunlight. Abnormal pigmentation will disappear after drug discontinuation.

Another common adverse effect of amiodarone is gastrointestinal disturbance, including nausea and constipation. Approximately 25% of patients will experience gastrointestinal side effects during therapy. Nausea usually occurs during the initial dosing of amiodarone and appears to be dose dependent. Nausea usually resolves with continued therapy, and can be minimized by taking the drug with food and dividing the total daily dose. Constipation, on the other hand, usually occurs with prolonged therapy.

Conclusion

Clinical trials suggest that the efficacy of low-dose amiodarone in managing both supraventricular and ventricular arrhythmias is similar to the efficacy observed with higher doses, while decreasing the incidence of adverse events. The risk of life-threatening organ toxicities still exists and warrants diligent monitoring of patients being treated with amiodarone.

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Elliott B. Pollack (Hartford)
Michael A. Kurs (Hartford)
Collin P. Baron (Bridgeport)
Katharine B. Sacks (Bridgeport)

90 State House Square
Hartford, CT 06103
(860) 424-4300

850 Main Street
Bridgeport, CT 06604
(203) 330-2000

265 Church Street
New Haven, CT 06510
(203) 773-3006

200 Pequot Avenue
Southport, CT 06490
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Commentary

An Interview with Dr. Gerald Labriola

by H. David Crombie, with Tim Norbeck

Gerald Labriola, M.D., served as a pediatrician in Naugatuck, Connecticut for 35 years until his retirement recently. He received his B.A. at Yale, M.D. at Jefferson Medical College and his post graduate training at Waterbury Hospital, Yale-New Haven Hospital, and New York Hospital. In the early 1980s he was successful in winning a seat in the State Senate of Connecticut. He later ran for the U.S. Senate, Lieutenant Governor, and Governor. Since retirement, Dr. Labriola has pursued a lifelong passion for words and writing, and his novel "Murders at Hollings General" is soon to be published. With his "triple threat" career in medicine, politics, and the literary world, your editor, and Timothy Norbeck the executive director of CSMS seized an opportunity to interview Dr. Labriola and explore the motivation for his varied career interests.

HDC: Let me lead off by asking you to reflect on your preparation for the career that you have had in medicine and for those things that went beyond medicine. You've written a book; you've held public office. Look at your high-school days, your Yale days in terms of how they prepared you for that career.

GL: I'm afraid there's nothing exotic in my answer. I wish I could say that early on I walked through a meadow, saw a robin with a broken leg, and repaired it, and that sort of thing, but that never happened. The truth of the matter is I always wanted to be a physician. How I narrowed it down to pediatrics is also rather simplistic—I just liked children, so I gravitated toward that specialty after I'd made the decision to be a doctor. Then there's politics, which I've considered my second career, in a sense, and finally, mystery writing, which I've embarked upon in the last four or five years since retirement. Touching upon the latter, I've just come out with a new book entitled, "Murders at Hollings General"; it's my third novel and I've started on my fourth. Actually, I've been writing all my life and have perhaps hundreds of short stories scattered around the house. Maybe some day I'll put them all together into an anthology. I used to write just to do something diversionary from that very focused pursuit that we're both aware of—medicine. I just liked to use words and put sentences together and express my thoughts on paper.

You mentioned politics and, yes, I was involved there, first as a state senator, then running for lieutenant governor. When I fell short at the state convention in 1982, I was asked to join Lewis Rome on his ticket, then lost a narrow election to Bill O'Neill. I was the heir apparent, you might say, to be the gubernatorial candidate but lost in the primary. Then in '94 I ran against Joe Lieberman for the U.S. Senate and lost. It took me a long time to get the message, but what happened over that period of time relates to my current writing career. I was asked to write many nonfiction pieces for newspapers including *The New York Times*; guest editorials, essays, that sort of thing. I got to enjoy it. Then one day I looked at the pieces I had written and noticed something very interesting. The more recent ones, compared to the earlier ones, were a little more "literary." Instead of pure reportage, I had begun to use metaphors and similes, quoting the Bible and getting a bit more stylistic. It was as if there was something in me, saying, "Break out of this and start using your imagination." That's how I got into fiction. I started writing short stories. Time wasn't at such a premium after I retired, and I progressed to novels, especially medical mysteries.

HDC: Where do you see the origin of all this interest in language and words?

GL: We talked at the dinner table. My parents were rather strict about sitting down there for meals. I learned a lot from them, more oral than visual at the time, but I also read avidly. My interest in murder mysteries goes back to my childhood when I grew up with radio shows like "I Love a Mystery" and "Mollé Mystery Theatre"; I couldn't wait for them to go on the air. Then I read all the Perry Mason and Ellery Queen books. Mystery writing started with Edgar Allen Poe, I suppose, "Murder in the Rue Morgue" in 1840. Then in 1880 or so came the Sherlock Holmes mysteries by Sir Arthur Conan Doyle, who was a physician as you know, and I read all of those. I was a voracious reader, until I got into medicine. The problem there is, by the very nature of our field we are so focused that we almost overdo it. In my view, too many physicians use that requirement for focus as a rationalization for not doing other things, such as writing, music, art, or getting politically involved. Many of my friends would only give lip service to involvement.

I would encourage other physicians, particularly in the climate in which we exist nowadays, the litigious climate, the politicized climate, to have their voices heard; not through others, but to run for the legislature, or for higher office. There's a lot of talent there. More doctors should consider a second career. I think that broadens an individual, gives more balance to that person's life, even makes a better physician. Medicine can be very smothering because it is such an intense field. One is dealing with life and death. A doctor may put blinders on and say, "I don't have the time nor inclination to do that," or, "I'll get to that sooner or later." I would say to younger physicians, the time goes very quickly. If you're entertaining thoughts of delving into other areas, invoke the Nike thing: "Just do it." One final point. Many of my peers, people my age who've retired, they're doing very little. They're bored and have become couch potatoes. By getting involved in other things, one prepares oneself for retirement.

HDC: There appears to be two groups of physicians who get involved. Some are active in their county and state medical societies and work within organized medicine to make things better. Others, like yourself, say, "Well if I'm going to make a mark I'll need to run for political office and be in the state capitol, actively engaged." Is there a difference, and which group has the greater effect on the world?

GL: Well, to each his own. It depends on where one is more comfortable. I was chief of staff at Waterbury Hospital for four terms and I enjoyed it immensely. I suggested that our administrator pursue the idea of its becoming a full-time position. I went before the powers that be on the medical staff and it was turned down. They felt that at Waterbury Hospital they were not ready for that. I would have liked to have gotten involved in that fashion, in an organized, quasipolitical way. This all happened around the time I was a state senator. I don't have anything wondrous to say about why I ran for state senator. Actually, I was asked. The party came to me and said, "We need somebody Doc; give it a try." "Are you crazy?" I said. "I'm not going to run against this seven-term incumbent, Lou Cutillo."

Whatever the dynamics were, I won, got up to the capitol, and then people encouraged me. All of a sudden I was put on the list to run for governor because I had beaten Lou Cutillo. That was 1980. In 1982, I ran for governor. People said, "Jerry, if you had stayed in the senate longer, you might have been more successful. You tried to do it too quickly."

Here's what I don't think is known: there's never been an M.D., before or since, in the state senate, in Connecticut, and the reason is, it's too difficult. I still had my practice. Trying to be a state senator, I still wasn't willing to give up my practice for that alone; (for governor, I might have, or U.S. Senator). I was doing both. Toward the end of each Senate session, when we were there until two or three in the morning, I would go back to Naugatuck and see patients who had called me while I was in session, who wanted to wait for me. It got to be too exhausting. I had to make a decision at the end of that term; do I run for governor or do I quit politics altogether, because I couldn't stay in the senate. So I decided to run for Governor—and lost.

TBN: I wonder if you can elaborate. You've indicated that physicians who retire often lose their focus. They've been putting so much time and energy into their doctoring, and then suddenly they retire. Wouldn't it make a lot of sense for some of these physicians to get involved in politics, if not to run as a candidate, then to be involved in anointing candidates and developing candidates. I remember you gained a lot of respect up there. I know there were people who came up to you and said, "Dr. Labriola, we need your opinion on this medical issue." They're dealing with medical issues all the time, and have no physicians engaged in the process.

GL: I agree with you. We should have somebody up there, more than one. I would encourage physicians to consider that, not only for their own satisfaction, but for the benefit of the whole field of medicine in Connecticut.

HDC: Is it possible? If a person is to be engaged in the political process at the state government level, isn't it necessary to do it when you did it, which was not exactly retirement age. That was the peak of your professional career. If they wait until they're retirement age, maybe they're too inexperienced with the political process.

GL: No, I think I would appeal to both groups. Physicians at a young age, perhaps not the first five or ten years, when they're trying to build up their practice, but once they are established, they should get rid of that focused mentality. It isn't as focused as one thinks. You make time for it. In addition to golf or gardening, you should also pursue something a little more intellectual. Do something for the field that has fed you and that you believe so strongly in and help it out. On the other hand, if a person has decided not to do it during his medically productive years, it's never too late. Retired people are a marvelous resource that should be tapped, not only for political pursuits, but for a lot of other things. I would appeal to retired people to say to themselves: "Look, I have much to offer. I could work in concert with younger people. I could run campaigns. That's one thing I did when I stopped being a candidate; I ran campaigns, because I liked politics. If a physician out there is intimidated by being a candidate, be a behind-the-scenes person. I did them both, and enjoyed them both.

HDC: And you would agree with Tim that there is a lot of attention on health care in the political arena and the unique perspective that physicians can bring to the discussion of health care, whether in office or not, is very important.

GL: No question about it. I believe a parallel can be made with writing a mystery novel. There's more authenticity if a physician writes a mystery novel dealing with hospitals, as my latest book does. The same goes for politics. When the agenda calls for medical issues to be considered, there's nothing like having a physician there. In the State Senate, I was automatically the ranking member of the Public Health Committee. There I was with no political experience and people were deferring to my opinion. My answers weren't trumped up, they were legitimate opinions based on my training, my experience in the field and could be brought to bear on the political process.

HDC: To shift slightly, do you think physicians in general are overreacting to the managed care inroads on their freedoms. Are they overstating it, or is it really a wound deeper and more painful with each passing month?

GL: Well, yes and no. I believe that it depends on the region of the country. Some individuals I have spoken to have overreacted, but I think, by and large, my vote would come down in favor of the individuals who do complain. I'm going by my last couple of years in practice That was terrible. Getting permission, for instance, to admit a child with meningitis, and being asked by a young clerk on the phone, "How long are you going to treat the child?" "Well, I have no idea." "Well, you've got to tell me." "Well, I have no idea. Depends on how he does." I'm an even-tempered guy, but I almost wanted to hang up on those calls. Doctors I've talked to since then have said it's getting worse. I understand what the forces behind managed care are trying to do. Long ago I used to write about the burgeoning cost of medical care and never did point the finger at doctors completely, but I did at those who ordered test after test after test, needlessly. In terms of the doctors' side of it, there were a lot of other reasons: people looking over your shoulder, lawyers, the government, expensive but better technology, the litigious climate that we live in, so many reasons for the high cost of medical care. Managed care is one way the government wants to go about keeping costs down. I think Hillary made things worse. There's been a backlash since her initial proposal. She tried to take over the thing, and I remember she addressed a group of physicians one time and she was like a dictator. They walked out of there and said, "No way!" So that's a lingering wound that she created, and physicians are reacting to that.

HDC: In my view, looking at doctors in my region, I see disenchantment, and I see some losing the energy and the fire that supported their careers. They kept up this tremendous interest and excitement which now seems to have been dampened by the political climate, and by managed care, to the point where, if they have a way out, they get out. Is there anything that you can say from your own personal experience to give physicians a little more encouragement not to get beaten back by these things. After all, this too will pass.

GL: Yes, this too will pass, but this may not pass very soon unless something is done about it by physicians. My advice on that issue is that if a physician cares deeply enough about his or her field, he/she mustn't run away from challenges, and this is a challenge. You tackle it. You don't brood about it. Maybe on the golf course, you can commiserate with one another, but not in public. You don't let people see you sweat; you join together, and you fight it, and you let your voice be heard. And we go right back to the subject of getting involved in the political process.

HDC: Well, I see some of the release valves for discontent and anger; engagement in the political process is a release valve, writing books, painting, gardening, golfing, photography; they are means of keeping perspective at a time when there seems to be some heavy shells landing on our campsite.

GL: That's the balance. We are human beings, and I think human beings need balance in their lives—a very good term, but I prefer "broadening." I think it broadens one's perspective and takes the sometimes damaging edges off "focus"—the word I keep going back to; "focus" because I think physicians—I started out this way too—are often too focused. When I first began I was so intent on being a good physician, and felt so fortunate that I was a physician in the first place, that I wanted to do the best job I could and spent every waking moment just concentrating on medicine. Medicine, medicine, medicine; it's almost like Douglas MacArthur's speech: "the corps, the corps, the corps." But physicians shouldn't say, "Medicine, medicine, medicine"; they've got to broaden their lives. They'll become better physicians in the long run and will help medicine in the process.

TBN: Can I throw in one last one? Our COMPAC, what we call MDPAC now; about 10% of the physicians in Connecticut pay the $100 to belong to MDPAC. Are there any words of encouragement you can give to the state's physicians who are reading this and respect your view?

GL: Yes. One should put his money where his mouth is. I think it's absolutely vital as a group to have the financial wherewithal to get things done. One can participate personally and/or financially. I would encourage physicians who have the resources to contribute toward active participation of others who are fighting for their cause; the cause of more independence, perhaps a restructuring of managed care. They are medicine's advocates.

HDC: Take a look for a minute at our journal, *Connecticut Medicine*. We have a journal that, among state medical society journals, has a pretty wide circulation, about 7,500, with a state society membership of 7,100 doctors.

Since you've done some writing, and you've engaged the political process and you certainly have practiced medicine, do you view the journal as an appropriate vehicle for voicing the view of organized medicine in the state, and giving voice to individual physicians, in their medical and scientific endeavors, as well as in the "not so focused" parts of their lives?

GL: Absolutely. You know, even in retirement, I still receive it. I look forward to it. I've had an article or two in it myself, in the past. I enjoy the editorials; I don't necessarily read as I used to—the scientific articles—because they're outside my loop right now. But I read Tim's comments, the essays, the editorials. I think it's well done and serves an excellent purpose.

TBN: There have been some states that have given up their journals, which I personally think is a big mistake. The journal is part of the professionalism of the organization, and of its members, and I think its very important.

GL: How many states still have them?

TBN: Probably about two thirds, but many of them have combined, like the Rocky Mountain states. I think those doctors made a very wise choice in maintaining their journal.

HDC: I'm surprised, actually coming at this with a certain humility in following Dr. Massey, that quite a few people comment about articles in the journal. There are more people reading it than I thought."

TBN: I think it's really looked upon as a very professional endeavor and a very valuable one to the society.

HDC: I really appreciate the opportunity to do this interview with you. We will call it, "An interview with Dr. Labriola." Here's an individual who is now retired, still actively engaged in pursuing his interests, who still looks back on his career in medicine as a pediatrician having been a delightful tour. He took some side roads into politics and into writing. He never felt that they took away from his main thrust as a doctor. He would advise physicians in their thirties and forties, "Don't stay so focused that you miss some opportunities to embellish your career and bring balance. Get unfocused and contribute to your community, and maybe even contribute to yourself and to your family." This at a time when doctors are feeling a bit under siege, coming from a person who has weathered those storms pretty well and is doing fine. Even now, it's a worthwhile message to deliver.

GL: Amen.

HDC: Thank you very much, Dr. Labriola. Thank you Mr. Norbeck for your help.

Airlift to Baghdad

Another midday call from my friends at AmeriCares shatters the routine of patient care and teaching rounds. "How would you like to go to Baghdad next week?"

The past several years have been punctuated by relief missions to Rwanda, North Korea, Albania, and Kosovo with AmeriCares and I have started to get used to these surprise calls. Even though I have been peripherally involved in international medical relief since working in a Cambodian refugee camp on the Thai-Cambodian border in 1979, the surge of excitement with this news makes me giddy as I start to clear my schedule and set up coverage.

Two weeks later, as our team is flying over the 900 kilometers of empty desert that separates Amman and Baghdad in a small turboprop, I try to guess what might be ahead. The Internet postings by other relief agencies suggest that malnutrition rates exceed 25% among children. There seems to be no information on disease epidemiology or prevalence since the onset of the United Nations (UN) sponsored embargo seven years ago. The UN sanctions committee is meeting this week to vote on the continuation of the embargo in place since the gulf war. I expect to see a parade of lethargic starving children with open sores to create heart rending video images for the evening news, reinforcing the official Iraqi contention that the sanctions program is a cause of widespread suffering imposed by the western nonArab nations. I fear finding myself in the center of a media based propaganda duel with the humanitarian purpose of our mission lost in a political debate.

Arrival in Baghdad is a circus. A herd of shoving press and television crews rushes the plane and jockeys aggressively for position. Mikes and cameras are shoved in our faces; I feel like a deer caught in headlights and duck to the back of the crowd. A quick shower at the Al Rasheed Hotel and my work begins in earnest. I meet with Dr. Jamal, the newly elected vice president of the Iraqi Red Crescent Society, who will have the responsibility of taking me on my assessment visits. My expectations begin to fall apart immediately. Unlike the soldiers at the airport and the common faces on the evening news, he is decidedly not a Saddam Hussein look-alike. A bit chubby, with short dark hair and an impish smile, laughter breaks out at the slightest provocation. We are immediate friends, before long exchanging stories about our families and professional careers. Jamal is not an exception, but instead, typical of my many interactions with the Iraqis. Laughter and genuine warmth seemed to characterize almost every contact. When I watch them socialize with one another the same dynamic seems to hold. The sweet tea, the relaxed informal friendliness, the laughter; my notions of a nation of thugs just doesn't hold.

My visit starts at the Red Crescent OB/GYN Hospital and I steel myself for the sad images of tiny wasted newborns struggling at the breasts of their sick mothers. Our first patient is a hardy looking 25-year-old proudly showing off her seven-pound baby girl. This is followed by an overweight young woman with an eight and one-half pound newborn. When I note to Jamal that the babies look so well nourished and normal he laughs and tells me that the mom is so fat, what did I expect? The main themes here are the inadequacy of medicine to support medical care and equipment shortages. Narcotics for postoperative pain management are nonexistent. Surgical pain is treated with aspirin plus Valium to heighten the pain threshold. Antibiotics are in extremely short supply. Unless poverty can be demonstrated, families are required to find medications at pharmacies or the black market to support medical care. Even food and bed linens must be provided by the patient. Only the destitute can receive the limited charity care available through the Red Crescent Society. The propaganda parade demonstrating the human tragedy caused by the embargo never materializes during this first evening.

Equipment is a major point of discussion wherever I go. The embargo has meant seven years of no spare parts and no new equipment. The ultrasound machine for assessing fetal progress in pregnant women is a true antique. The images are fuzzy and there are so many patched repairs of the cable connecting the transducer apparatus to the viewing monitor that the cable kinks back in forth in a bizarre shape punctuated with runs of black electricians tape. Most equipment is broken or nonfunctional; of the two sterilization autoclaves, one is cannibalized for spare parts to keep the other limping along. As I leave the hospital, I am pursued by a doctor pleading for me to bring an EKG machine so that he does not need to continue sharing a single functioning machine with a hospital across town.

At Yarmuk Hospital, a large University affiliated hospital in western Baghdad, we are ushered into a hospital administrator's office. It turns out that Jamal trained at Yarmuk and Dr. Hazim, the administrator, is one of his best friends. Hazim is a short, stocky man who sits at a large desk piled high with documents and charts. Three telephones at his side ring almost continuously, interrupting every attempt to talk. His crooked front teeth give his smile a mischievous quality that fits his funny, sarcasm-edged sense of humor. We finally break out of his office to visit the open wards of this large dilapidated place. We are received with real enthusiasm at every point of the visit. The doctors sense that we may be providing substantive help and they all but line up to tell us what their patients need. The focus is so consistent at every stop. The center of each discussion relates to how they care for patients and what they need to do more. Politics are completely absent, personal agendas and complaints never surface. This is all about their patients' needs. I am struck by the parallel to my recent trip to the Democratic Peoples Republic of Korea.

In Pyongyang, every bureaucrat I met from the many relief agencies—World Food Program, UNICEF, World Health Organization—complained of an absolute wall of obstruction with every effort to obtain information about disease epidemiology and health-care statistics. Six months of meetings with health and foreign ministry officials had failed to extract as simple a piece of fundamental epidemiology as the incidence of tuberculosis in North Korea. In contrast, my meetings there with doctors over six days generated a flood of detailed information that spanned the entire spectrum of the health-care system. The intent of Korean doctors was clear, just as I was seeing in Baghdad; the needs of their patients clearly transcended any political agenda. One of the central requirements that AmeriCares places on these airlifts to areas of need is that each shipment be accompanied by a physician to meet with local health care providers. The wisdom of this was evident in Baghdad and Pyongyang. Doctors can't help themselves; no matter what environment they work in, there is an overriding sense of connection to their patients and to other doctors. The international secret handshake of two doctors from opposite sides of the world is to launch into a discussion of the incidence of hypertension in their practices and what agents they are using to treat it. The central impression at virtually every stop during the visit was the intensity of these physicians, their compassion, and commitment. There was obvious frustration at the impotence of seeing patients with readily treatable diseases but for the lack of proper medications; yet I never saw anger. Even though the sanctions are seen as American inspired tools of policy by the Iraqi propaganda system, the Iraqi people expressed an unambiguous clarity about the difference between the American government and the humanitarian feelings of the American people. They expressed it as obvious and well known that the American people are kind, generous, and compassionate. Only once did a patient challenge me to tell my government to stop the embargo. Perhaps it reflects how completely disconnected the Iraqi people feel from the Orwellian lunacy of their own government.

Later in that same day I meet Dr. Hazim again at Washash Clinic, set in one of the poorest neighborhoods of Baghdad. Together with 10 other doctors, Dr. Hazim would see over 500 patients that afternoon, and afterward he would return to his office at Yarmuk Hospital to finish his other work. His days routinely started at 7:00 A.M. and finished at 11:00 P.M., leaving almost no time for the four beautiful children that he proudly has displayed in photographs from his wallet. No complaints, just matter of fact acknowledgment of his role as a doctor. Each of the clinic doctors that I meet are the same. Having spent emotionally and physically punishing days in Central Africa seeing up to 700 patients per day with two other doctors, I could feel the sense of exhaustion that comes with seeing such a compression of human misery day after day. I am in awe at the emotional strength of these young doctors.

As we continued our tour I was introduced to Dr. Kanar Jalil, a young anesthesiologist at Yarmuk. In contrast to most of the women physicians I had met who dressed in loose flowing dresses with hair closely covered in conservative Islamic style, Dr. Jalil was dressed in an open neck western style blouse with short-styled hair and a beautiful smile that conveyed an underlying sadness. Unlike most other doctors, her English was halting and tentative and the words tumbled out in her eagerness to tell me everything, as if she were afraid that I would leave before she could complete her story. She wanted me to know about Wa'el, a boy who had come to Yarmuk three years before with progressive spinal cord disease that left him paralyzed below the neck, requiring a mechanical ventilator to support his breathing. Over the past three years she had watched him grow from a 12-year-old boy to a young man. She quickly recounted the special care that kept him well; the intensive nursing and continuous physical therapy that had kept his skin free of pressure sores and his muscles loose and free of the usual deforming contractures, something difficult to achieve even in the first world medical setting. This was a personal crusade for her and one that was expressed with so much passion and intensity. As we entered the room where Wa'el was kept alive on an old anesthesia machine converted to a ventilator, she finished her story. Could I arrange to have a portable ventilator sent for her patient so that he could go home and begin his life as a young man. By now her eyes were brimming with tears waiting for my answer. I pointed to the television network news crew across the room, filming our meeting, "they have the power to make this happen by showing your story to the American people."

Later Nick, the cameraman, hardened by years of covering the news in some of the toughest war torn parts of the world, told me that he was so moved by what he saw that he was making it his personal mission to get a ventilator back to Yarmuk. Young Wa'el was touching and tragic, but in the context of the much broader needs that surrounded us getting him a ventilator seemed mainly a symbolic gesture. I promised to work with Nick to get the ventilator, not just for Wa'el but for his doctor as well, to try and create a window of success in the crushing emotional strain of being a doctor in Iraq. Saving Dr. Jalil and helping her maintain her passionate intensity may mean saving thousands of patients who may one day benefit from her extraordinary compassion and commitment when according to Jamal, so many Iraqi doctors had given up the practice of medicine.

Later that day we drive through Al Monsour, a neighborhood of great wealth and palatial mansions. We stop at the Hunt Club, a walled in country club for residents of Al Monsour. Walking between busy tennis courts and groomed lawns, I turned to Jamal and asked how this wealth could exist with the sanctions, but it seems that the sanctions only present opportunities for the rich to increase their wealth through trade in the black market. As we walked along a flowered path just a few miles from the jammed clinic at Washash, Jamal looked up at me speaking without drama or special emphasis. "The rich are not affected by the sanctions, only the poor are smashed. The doctors only work with the poor and we are broken."

Back at home, Nick and I each exhaust potential sources in London and Connecticut looking for a ventilator for Wa'el. Eventually I try a friend, a physician who is the CEO of a rehabilitation hospital. As a doctor, he understands immediately, and using his own resources solves my problem in a few hours. Within a week, the ventilator is on its way to London where Nick will carry it to Baghdad. Last week, an e-mail from Amman, Jordan, "Wa'el was overjoyed and his mother arriving for her daily visit was overcome. We had an impromptu feast (sodas and chocolate bars, a rare treat in Baghdad) at the bedside." And finally, Dr. Kanar's letter back to me, "... we are very, very happy and very thankful for your diligence in sending this valuable portable ventilator, knowing that without your help Wa'el will be jailed in one room in hospital for [the] whole of his life."

Still, I hear nothing of her own needs or personal concerns. The focus stays on her patient. In our own arena, when managed care has increasingly changed the focus of medicine from patient advocacy to bottom line business practice, it is ironic that physicians can look to Iraq and North Korea for inspiration and a reminder of what lies at the roots of our profession.

Stephen M. Winter, M.D.
Chief, Division of Pulmonary and Critical Care Medicine, Norwalk Hospital, Norwalk,
Associate Clinical Professor of Medicine, Yale University, New Haven.

No financial support was involved
in preparation of this manuscript.

Prescription for Anger

A revolt by doctors who belong to the Connecticut State Medical Society is hardly surprising, given the growing unhappiness of physicians with a health-care system dominated by HMOs.

About 7,000 Connecticut physicians have asked Attorney General Richard Blumenthal to investigate the fairness of a new contract that Aetna Inc. is asking doctors to sign. They contend it violates state law and compromises patient care. Mr. Blumenthal has agreed to look into their grievances.

The doctors' outcry is timely. A major health-care debate in Congress is set to begin Monday. Given the increasing involvement by insurers in medical decisions, Congress has a responsibility to craft legislation that holds health maintenance organizations accountable if they make mistakes.

Aetna wants physicians to sign an "all-products" contract that would require them to participate in each of the company's many health plans. Doctors say that the take-it-all-or-leave-it approach would render their practices unprofitable.

Another sticking point is an incentive system that rewards doctors who do not "overuse" hospital services and specialists. Doctors say this pits them against the patients' needs. They also object to a provision that limits their responsibility to recommend referrals outside Aetna's needs.

Aetna insists that the changes will permit patients to see the doctors they prefer regardless of their insurance plan.

Given the claims and counterclaims of each side, Mr. Blumenthal's intervention is welcome. His primary obligation is to make sure the Aetna contract complies with the law and protects the interest of consumers.

Physicians bear the ultimate responsibility for healing. Yet insurers, in their drive to cut excessive and expensive medical procedures, are going overboard, tying doctors' hands and burying them in red tape.

Contrary to Aetna's claim, the protesting doctors hardly constitute "a vocal minority." The state medical society is scarcely a radical organization that is quickly driven to protest.

As a giant in the health-care field, Aetna is in a position to set an exemplary course for managed care companies. Aetna U.S. Healthcare scored lower than average. Less than half of its patients in Connecticut said they were happy with the service rendered. No company that depends on customer satisfaction would find this acceptable.

With mergers increasing the clout of health insurers, consumers are at risk of being pushed to the background if government fails to perform its oversight responsibility.

Managed care is still in its shakedown period. But lawmakers must not forget that it is a tripartite system—patient, physician, and insurer. All voices must be heard.

Editorial

Reprinted from the *Hartford Courant*,
Thursday, 30 September 1999

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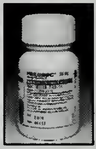

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50 Years Ago
From *The Connecticut State Medical Journal*
January 1950

A Survey of Intern Distribution
Views on the Intern Placement Plan and Related House Staff Problems in the Connecticut Area

ROBERT R. NESBIT, M.D., *New Haven*

ANOTHER July 1 has passed and hospitals have, or in too many instances have not their quota of interns for the next twelve months; while those responsible for procuring house officers begin to look towards that day in November 1948—the day of the "Marathon of Telegrams" resulting from the present mode of operation of the Universal Intern Placement program; and to the several days following when prospective interns reply, and the House Staff fate of the hospital is settled for still another year.

The "Intern Problem," The Universal Intern Placement Plan, and many other related details are the objects of acute consciousness for all those encumbered with the task of providing and educating interns and residents. This paper was prepared by one of them about to be liberated after fifteen years, from a survey made to determine where the intern problem was most acute, and if possible, why; to ascertain the status of the Intern Placement Plan; and the related problems of intern procurement and education as they pertain to hospitals in this area, including, besides Connecticut, nearby parts of New York, Massachusetts, and Rhode Island. It represents 26 hospitals ranging from 100 to 850 beds, and a total of 8,350, located in small towns and metropolitan centers. It is presented in three parts, the first dealing with the intern shortage problem, the second with the Intern Placement Plan, and the third with related problems which have a direct bearing upon, or are affected by the first two.

PART I—THE INTERN SHORTAGE PROBLEM

In Table 1 are shown the results of the survey, including the "Attractions' offered prospective house officers: viz., the approved residency, the stipend, the bonuses and fees allowed, according to hospital bed capacity; also the type and duration of internships, and the desired distribution and actual distribution of interns according to bed capacity and average patient census. From the table, certain conclusions are evident: viz.,

1. The intern shortage increased in 1949 over 1948, there now being an average shortage of one intern for every three desired, compared to one in four for last year (line 14).
2. The shortage affects most seriously (lines 5, 6, and 14):
   (a) The small hospitals.
   (b) Small and large hospitals paying high stipends, the increased stipend probably being the effect rather than the cause.
   (c) Hospitals not offering residency opportunities.
3. Almost all small hospitals, and some of the larger hospitals either (lines 1, 4, 5, and 6)
   (a) Cannot establish residencies.
   (b) Do not think they can have approved residencies, or
   (c) Do not show any interest in establishing educational programs, either because of the expense or because, sad to relate, the medical staff has not the initiative.
4. Increasing stipends to salary status is not a remedy and does not overcome the short supply of interns to the individual hospital, whether the hospital be large

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Reprinted from the *Connecticut State Medical Journal*, January 1950.

Table I

DISTRIBUTION OF INTERNS FOR 1948–1949 AND 1949–1950 IN 26 HOSPITALS, SHOWING RESIDENCY OPPORTUNITY, SERVICES OFFERED, STIPENDS, AND PATIENT LOADS DESIRED AND ACTUAL

LINE NO.																												TOTALS AND AVERAGES
1.	Survey No.	3	2	4	22	19	5	6	13	20	24	1	7	9	10	11	14	21	26	12	15	8	25	16	18	17	23	
2.	Total beds	100	150	150	150	150	200	200	200	200	200	250	250	250	300	300	300	300	350	400	400	500	500	550	550	600	850	8350
3.	Approved internship	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	26
4.	Approved residencies	0	X	0	0	0	0	X*	X	X	0	X	X	X	X	0	X	X	0	X	X	X	X	X	X	X	X	17 & 1 general
5.	No. residencies	0	?	0	0	0	0	1*	3	?	0	4	?	4	1	0	?	2	0	3	9	4	5	3	6	11	9	65
6.	No. res. positions	0	?	0	0	0	0	1*	3	?	0	8	?	4	2	0	?	2	0	4	16	4	14	10	21	34	38	160 & 1 general
7.	Type internship	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	S	R	R	R	M	R	R-M-S	R	R-M	S	M	R-22,S-3,M-14
8.	Length of service, mo.	12	12	12	24	12	12	12	12	12	12	12-24	12	12	12	12	12	12	12	12	24	12	24	12	24	12-18	24	12mo.21,18mo.1,24mo.5
9.	Stipend, per month	$175[1]	$100	$100	$100	$100[2]	$100	$100	$50	$50	$50[2]	$50	$100	$50	$117[3]	$108	$0	$105	$100[4]	$75	$50	$100	$0	$35[5]	$0	$0	$0-20	Average $69
10.	No. interns desired																											
	1948	3	3	5	6[6]	6	?	6	3	6	6	6	9	12	6	6	8	4	15	8	16[7]	13	10	20	12	36	27[7]	230
	1949	3	3	5	6[6]	6	3	6	3	6	6	6	9	12	6	8	8	4	15	8	16[7]	13	10	18	12	36	27[7]	234
11.	No. interns obtained																											
	1948	0	3	6	3[6]	5	?	4	3	6	4	4	5	2	5	2	6	2	4	4	14[8]	13	10	20	12	36	27[7]	178
	1949	0	0	3	3[6]	0	3	1	2	2	4	2	6	5	2	1	2	1	8	4	14[8]	8	10	18	12	36	27[7]	153
12.	Desired intern bed load																											
	1948	1:33	:50	:30	:25	:25	:66	:33	:66	:33	:33	:42	:28	:21	:50	:50	:37	:75	:23	:50	:25	:39	:50	:28	:46	:17	:32	1:39
	1949	1:33	:50	:30	:25	:25	:66	:33	:66	:33	:33	:42	:28	:21	:50	:37	:37	:75	:23	:50	:25	:39	:50	:28	:46	:17	:32	1:38.5
13.	Intern bed load obtained																											
	1948	0	:50	:25	:50	:30	?	:50	:66	:33	:50	:62	:50	:125	:60	:150	:50	:150	:88	:100	:28	:39	:50	:28	:46	:17	:32	1:62
	1949	0	0	:50	:50	0	:66	:200	:100	:100	:50	:125	:42	:50	:150	:300	:150	:300	:44	:100	:28	:39	:50	:31	:46	:17	:32	1:98
14.	No. interns short																											
	1948	3	0	0	3	1	?	2	0	0	2	2	4	10	1	4	2	2	11	4	2	0	0	0	0	0	0	53–23%
	1949	3	3	2	3	6	0	5	1	4	2	4	3	7	4	7	6	3	7	4	2	5	0	0	0	0	0	81–35%
15.	Desired load by av'g census																											
	1948	1:41	?	:24	:18	?	:52	?	:47	:26	:23	:31	:18	:18	:28	:33	?	:44	:18	:30	:18	:27	:50	:28	:41	:12	:23	Ave.–1:29
	1949	1:41	?	:24	:18	?	:52	?	:47	:26	:23	:31	:18	:18	:28	:25	?	:44	:18	:30	:18	:27	:50	:31	:41	:12	:23	
12.	Obtained load by av'g census																											
	1948	1:0	?	:18	:36	?	:52	?	:47	:26	:34	:46	:32	:103	:34	:100	?	:88	:66	:60	:21	:27	:50	:28	:41	:12	:23	Ave.–1:48:5
	1949	1:0	0	:40	:36	0	:52	?	:71	:78	:34	:92	:27	:43	:85	:200	?	:176	:33	:60	:21	:44	:50	:31	:41	:12	:23	Ave.–1:69.5

Legend–R–Rotating, M–Mixed, S–Straight. *General residency. ? Data not obtained–anonymous return. † Figures from J.A.M.A. Hospitals Number, 1948.

1. No meals furnished; fees for work-up of private cases. 2. Uniforms not furnished. 3. Meals not furnished with maintenances.

4. Fees for obtaining autopsy permissions. 5. Bonus for excellence of work, fees for special extracurricular work done. 6. Represents first year men only.

7. No. 15–8 first year desired. No 23–14 first year men desired. 8. 6 first year men, 8 second year obtained.

or small (lines 2, 9, and 14). Note especially Survey no. 3, 2, 4, (small hospitals) and 9, 10, 11, and 26 (larger hospitals.

5. Rotating services of 12 months are the most popular (lines 7 and 8). Compare this with Table V, which shows the opinions of those surveyed as to what the type and length of service should be to be adequate, not perfect, but merely adequate.
6. The proper intern ratio to total beds and to average patient census is the subject of widely divergent opinion (lines 2, 12, and 15). It ranges from 1 intern for 17 beds to 1 for 75 beds, and from 1 intern for an average census of 12 patients to 1 for 52 patients. Because this survey does not include out patient work or the amount of work done by interns on private cases, any conclusion might be erroneous, however.
7. The average patient load per intern is too high for adequate patient care, and renders carrying out any educational program almost impossible (line 16). Note especially survey nos. 1, 11, and 21. It also demonstrates that the patient load in some hospitals, despite the fact that their shortage of interns is as much as 50 per cent of their estimated wants, is far less than the average quota desired. Note survey nos. 4, 7, and 26.

PART II—THE UNIVERSAL INTERN PLACEMENT PLAN

This plan has caused so much controversy, in spite of the fact that its intentions are of the highest, that a series of questions was asked pertaining to its past, present, and future.

Briefly, the plan has as its aim the equalization of intern distribution, but since it has no power to assign any quotas, no compulsion upon hospitals to obey its rules, and no penalties for rank infringement of the rules, it is not efficient. Essentially, all it does is prevent hospitals from obtaining medical school transcripts until a specified day, and penalize students who are "caught" accepting positions prior to a deadline in November. On that day the "Marathon of Telegrams" of acceptance of first-choice applicants floods the wires from coast to coast. Following this there is supposed to be a period of grace during which candidates review their acceptances and make their choice. Then the return marathon begins. After this it is a race to obtain replacements for those who reject appointments, and more and more telegrams and telephone calls go out until all applicants have been exhausted, and if the hospital is one of those having trouble filling its quota, the application pile is exhausted before one intern is procured.

The following table shows the results of the survey:

Table II

	Yes	No	No reply	Doubtful
1. Hospitals abiding by the plan in 1948	24	1	1	—
in 1949	24	2	—	—
2. Did the plan help you fill your intern quota in 1948	0	26	—	—
in 1949	0	26	—	—
3. Do you consider the present plan adequate?	0	25	1	—
4. Do you think it can be made to work without putting some "teeth in its rules"?	1	20	5	—
5. If it is unchanged, will you abide by the plan in 1950?	5	12	2	7

The results need little comment. The most one can say is that the 7 doubtfuls in no. 5 are probably mentally inclined to the negative side, especially since most of them answered in the negative to questions 2, 3, and 4.

The conclusions are self evident. The plan is in disfavor, and having no rules that have power to penalize, it cannot take any steps to prevent complete collapse, as far as the hospitals are concerned. Were it to be revised, given power to allocate and to penalize for rules infringements, it would still be possible to circumvent any or all of the rules, unless a police system were devised.

PART III—PROBLEMS RELATED TO INTERN PROCUREMENT AND EDUCATION

1. *Medical School Hospitals and Interns.*

Because so many complaints have been voiced that medical school hospitals "hog" interns, it was asked if this was the opinion of those surveyed. The answers were:

Yes ... 23	No ... 0	No reply ... 3

Since the opinion was so prevalent that overstaffing of medical school hospitals is a fact, an analysis of 107 such was made at random from the *JAMA*, representing all the states, and the figures compared to 25 of those surveyed, omitting no. 17. The results are shown in Table III.

Table III

	No.	Beds	Interns on duty	Intern Bed load	Desired load
Medical school hospitals	107	78,800	2,899	1:27	1:25*
Surveyed hospitals	25	7,750	138	1:56	1:38

**JAMA* states these positions are 91.4 per cent filled.

From this table it is evident, first, that the actual number of interns on duty in the medical school hospitals average over twice as many per 100 beds as does the number in the group surveyed. Second, the desired load per intern, though still above that of the group surveyed, is only 4:100 for medical school hospitals as compared to 3:100 beds for the 25 of the survey. This is not a great difference, and redistribution of the available supply would not compensate for the shortage of interns generally.

It is also evident that we should admit that our first statement, "medical school hospitals 'hog' interns," is only part of the story, and to be accurate it should add that medical students seek medical college hospitals for internship, except when the nonmedical school hospital becomes a true teaching institution.

II. *Intern Pay.*

The three questions about pay were asked as a result of an intern "gripe" session. They are as follows:

Table IV

	YES	NO	NO REPLY
1. Are interns paid enough?	18	5	3
2. Should the medical staff be taxed to help pay interns?	5	18	3
3. Would your staff consent to such a tax?	1	20	5

This needs no explanation, although it is notable that of those saying interns are inadequately paid, one hospital paid no stipend, and one paid $50, while three paid $100 per month. The highest recommended salary was $300 per month in a hospital paying $100, and the lowest was no stipend in a hospital also paying $100 per month.

III. *Type and Length of Internship Deemed Adequate.*

The following answers were given to these questions about internship:

Table V

	YES	NO	NO REPLY
1. Do you think a 12 month rotating internship is adequate?	9	16	1
2. Would a 2 year internship help to solve the internship problem?	19	5	2

	ROTATING	STRAIGHT	MIXED	ROTATING & MIXED
3. If so, what type of service would you favor?	17	0	2	1

	YES	NO	UNSURE	NO REPLY
4. If you favor a rotating service, do you feel American Boards should give more credit for such a service?	16	3	2	5

Compare this with line 7 of Table 1, and note the discrepancy. From this table it is evident that most of those surveyed think a two year rotating internship is the one of choice, but tacitly admit at the same time that because of the American Board rulings it is not feasible, and probably not possible to obtain interns for that type of service. This is a situation which might well be investigated by those concerned. A second striking feature of the table, is that, despite the fact that medical college internships are most often straight services, no one surveyed thinks they are the best type of service, not even the one which now offers a straight service. This, too, is a situation which seems worthy of study by educators, both of the medical colleges and the hospitals.

IV. *"Education of House Staff."*

The questions in this category were general, and they might have been answered with mental reservations.

Table VI

	YES	NO REPLY
1. Does your hospital have a formal plan for intern education?	24	2
2. Has the House Staff its own Education Committee?	12	—
3. Under whose direction is the plan carried out?		

STAFF COMMITTEE	PART-TIME DIRECTOR	FULL-TIME DIRECTOR	COMMITTEE & FULL DIRECTOR	COMMITTEE & PART TIME DIRECTOR
17	1	2	1	3

As stated, this is not too informative, but the fact that there are 7 part or full-time directors now engaged would indicate that there is increasing cognizance of the need for directors to handle such time consuming and important tasks as intern-resident education.

V. The final question dealt with the inspection of internships which, admittedly advisable, is a huge task. The writer felt that medical colleges should take part in such inspections, so that they could be made more frequently and more thoroughly, and because it would not put such an onus on the American Medical Association. The results were as follows:

Table VII

	YES	NO	NO REPLY
1. Should internships be investigated to insure adequacy of service?	21	4	1

	A.M.A.	MEDICAL COLLEGES	BOTH	NO REPLY
2. By whom?	12	3	4	7

	1 YR.	3 YRS.	5 YRS.	NO REPLY
3. How often?	14	3	2	7

There is not doubt as to the conclusion. It does still seem that annual inspections of internships solely by the AMA would be an almost insurmountable hurdle, if they were to be adequate.

These are the results, therefore, of our survey. The conclusions have been drawn as we went along. Suffice it to add here that the intern problem is a real problem for all hospitals, and to some it is a major obstacle. There is no apparent relief in sight, and no plan has been evolved which has affected the distribution of the available supply. In hospitals with good teaching programs, the problem is the proper teaching without jeopardizing patient care; in the smaller hospitals it is merely a problem of how to acquire a house staff at all.

It was not the purpose here to attempt to solve the problem, but to point out how it has affected us in Connecticut and our neighboring states, and to bring to light the opinions of those dealing in intern activities so that they might be known to those who are entrusted with solving them, and who, to date, have not succeeded.

REFERENCE

1. J.A.M.A©. 137:16, 1948.

A Survey of Medical Education

After a year and a half of planning, the Medical Education Survey sponsored by the AMA Council on Medical Education and Hospitals and the Association of American Medical Colleges has started its important work. Members of the Survey Committee are: Alan Valentine, president of the University of Rochester, chairman; Dr. Herman G. Weiskotten, dean of Syracuse University College of Medicine; Dr. Victor Johnson, director of the Mayo Foundation for Medical Education and Research; Dr. Donald G. Anderson, secretary of the Council on Medical Education and Hospitals; Dr. Arthur C. Bachmeyer, associate dean of the Division of Biological Sciences, University of Chicago; Joseph C. Hinsey, Ph.D., dean of Cornell University Medical College; and Dr. Dean F. Smiley, secretary of the Association of American Medical Colleges.

Dr. John E. Dietrick, associate professor of medicine, Cornell University Medical College, is director of the survey, and Dr. Robert Berson, assistant dean at the University of Illinois College of Medicine, is serving as associate director. Additional appointments to the full time staff will be made.

An advisory committee is being formed of outstanding leaders in several fields of activity related to medical education. This committee will meet with the survey committee from time to time to review the progress and the findings of the survey as they relate to areas of interest to the general public. In addition to a study of undergraduate medical education, the survey also will be concerned with premedical education and with graduate and postgraduate education and the relationships of the medical schools to the community.

The importance of a close integration of the premedical and preclinical programs so that there is continuous passage from college to medical school has been recently emphasized by Dean C. N. H. Long, of the Yale School of Medicine. In his recent report Dr. Long also expresses the belief that medical training can be shortened without lowering the standards of medical education by allowing students from liberal arts colleges to be admitted to a medical school at the end of their sophomore year. The students would then complete their premedical training under a new revised program.

Dr. Long proposes that the new program would have a curriculum occupying a minimum of three years, and the student's courses would include the following: first, general culture courses as may be indicated in individual cases; second, regular premedical training courses in chemistry, physics, and biology; and third, a revised program in medical sciences.

In addition, the student during this period would be attending courses given by the departments of psychology and psychiatry. At the completion of this new program, the student would then enter the final two years of the medical school program as it now exists. Under such an arrangement the student would receive his M.D. degree one year sooner than he would under the present system.

Many will agree that there is much wastage of time and effort because of the lack of coordination, of which Dr. Long speaks. The premedical student is certainly "in medicine" as well as the medical student and he should be made to feel so by his instructors. In keeping with this viewpoint, certain exposures of the premedical student to clinical medicine could be developed so that some part of the vacation periods could be put to important profit.

Wastages are seen also in the later period of medical training where from nine to twelve months of the four year medical course are devoted to vacation periods. Without decrying the importance of such recreation, we should not forget the real purpose of medical education, which is not to provide the student with sufficient technical information to earn a living but to prepare him for a lifework in which he must assume highest social responsibilities. For this he must be indeed an educated man. Such a concept of education cannot be based upon a particular curriculum to which all students must be subjected. The words of Professor A. G. Conrad of Yale, in speaking of engineering training, are equally applicable to medical training. "Standardization of courses and curricular may result in more uniformity in our education. True education makes for inequality—success, the glorious inequality of talent and genius. For inequality, not mediocrity, individual superiority, not standardization, is a measure of the progress of the world."

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Neil J. Grey, M.D.
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An Error is an Error is an Error

The recent report by the Institute of Medicine titled *To Err is Human: Building a Safer Health System*, has prompted considerable commentary in the electronic and print media. Some of that commentary is downright condemning towards doctors, some simply casts suspicion, and some of it may even be found helpful. Under the alarming heading "Doctors' Deadly Mistakes" (with Mistakes in bright red ink), *TIME* magazine posits— "Depending on which statistics you believe, the number of Americans killed by medical screw-ups is somewhere between 44,000 and 98,000 every year—the eighth leading cause of death even by the more conservative figure, ahead of car crashes, breast cancer, and AIDS." Perhaps in the presence of this disseminated invective Connecticut physicians can find the means to place all of this in perspective for ourselves and our now more apprehensive patients.

The IOM figures are derived from the retrospective review of patients' hospital records sampled in three states: New York in 1984, and Colorado and Utah in 1992. Mistakes, including drug mix-ups, surgical errors, and misdiagnoses were sought and tallied, then sweepingly extrapolated to apply to all U.S. hospital admissions in the year 1997! Applying the 15-year old New York figures led to a calculation of 98,000 deaths nationally in 1997, while the Colorado and Utah numbers of seven years ago gave a 1997 national death toll of 44,000 from medical mistakes. The scientific validity of these alarming figures, based upon chart reviews from the past must be viewed somewhat defensively by doctors, especially those whose careers have been geographically based around Connecticut's hospitals in the 1990s.

Every hospital departmental discipline of medicine as well as their major and minor divisions conducts regular morbidity and mortality conferences with required attendance by students, residents in training, and practicing staff physicians. All deaths on the "service" and all adverse outcomes are collected, presented, and scrutinized in open forum, always seeking cause and what might have been done differently to gain a more favorable outcome for the patient, and of course for the responsible physician. The "responsible physician," with his/her name recorded as the "physician of record" for the patient, may be only indirectly responsible for untoward events such as medication errors, falls from bed, equipment failures, and unavailable space, personnel or technology.

For surgeons, the weekly M&M conference, with which the writer became intimately familiar throughout the 1990s, has become the key focal point for improving surgical care, blending discussion of diagnosis, technique, judgment, systems needs, and ethical considerations pertinent to severe illness in an honest educational setting. The level of responsibility felt by all participants, those in training, the rank and file surgeons whose careers are devoted to and indeed dependent upon this work, and the leaders who chair the meetings, is palpable even to the neophyte, and, I venture, would be a source of some comfort to patients past and future. At the conclusion of each discussion, the outcome is attributed to such categories as: error in diagnosis, delay in diagnosis or treatment, error in judgment, severity of illness, and issues relating to the participation of other departments in the institution in the management of the patient being discussed. When this latter attribution is listed, it triggers an expanded discussion with leaders of other departments-medicine, anesthesia, radiology, etc., and when appropriate, with risk management, an office nonexistent in most hospitals in 1984, the year upon which the New York figures estimating medical misadventures were based.

On the issue of severity of illness, the commonly occurring disease appendicitis might serve as an example. It is seen at the operating table in two basic forms: early acute appendicitis and the more advanced perforated appendicitis. The latter results in a 10-fold increased cost in complications, deaths, and dollars. Nationwide, 20% of patients with appendicitis are found perforated at surgery. The surgical gospel dictates the goal of removing the acutely inflamed appendix before it perforates to save life, suffering, and economic cost. The surgeon who puzzles over a patient with abdominal pain and delays intervention only to find perforated appendicitis at operation may consider that an error. But, if the delay in undertaking surgery is due to the unavailability of an operating room attributable to the space and personnel budgetary constraints of the managed care environment, whose error is that? If the family practitioner who first sees the patient with abdominal pain in the office setting makes a diagnosis of gastroenteritis and sends the patient home instead of to the surgeon only to learn later that the patient was found to have perforated appendicitis at operation, he/she may consider that an error. But if that practitioner is functioning under the pressure of a patients-per-hour "cattle

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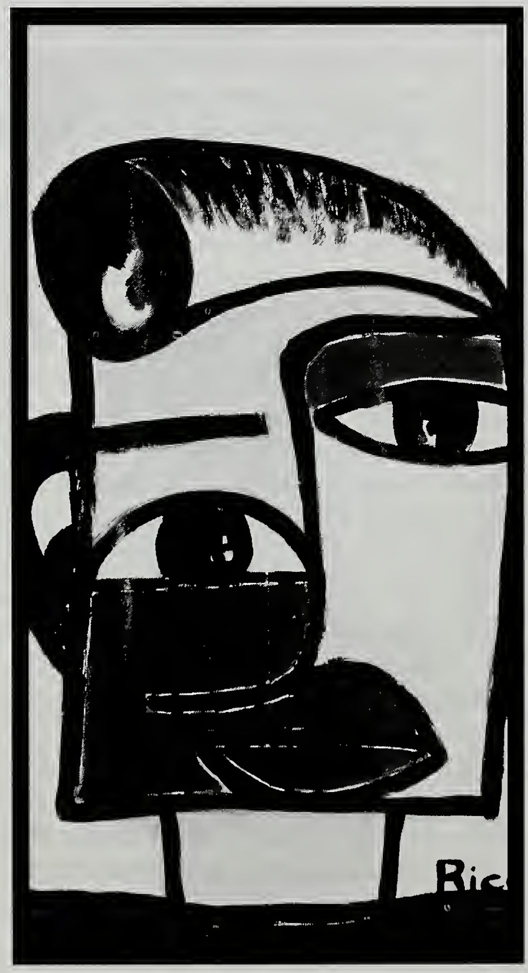
prod," how egregious is the error, and where does the real responsibility lie? Finally, if the patient thinks little of the "bellyache" and delays seeking medical attention, we might attribute the subsequent perforated appendix to "patient delay." But, if the patient has only circuitous access to medical care, or worse, is one of the 44 million Americans lacking financial coverage for medical care and delays seeking attention until deathly ill, whose error is that?

Much has been accomplished in assuring safe and high quality medical care to the citizens of Connecticut since 1992, and a quantum leap has been made since 1984. Without doubt, the rare report of "wrong site" ablative surgery anywhere in the U.S. is shocking and shameful. The orthopedic community has led a national proposal to mark the appropriate site for surgery on an awake patient to prevent tragic mishaps. Anesthesiologists, working with suppliers of devices upon which they and their patients depend, and with surgeons, have led in achieving vastly safer anesthetic processes during surgery. Hospital pharmacy leaders are diligently developing human and computer systems that automatically alert those at the bedside when dosages and drug compatibilities are suspect. Physicians' illegible handwriting is not a joke anymore—it's a fatal flaw—and we must assure our public that this vestige of a less complex, slower-moving age of medicine will be corrected within the ranks of the profession immediately. Connecticut physicians applaud the creation of the National Patient Safety Foundation by the AMA in 1997, the assistance of risk managers in creating a safer patient environment, and yes the ongoing research of the Institute of Medicine. Hopefully, the attention given to the IOM report will not lead to an even more uncomfortable and threatening medical liability climate, further undermining trust between doctor and patient. In the pressure-cooker environment of managed care which has contributed to painful budget deficits in virtually every hospital in the state, those same Connecticut physicians will not be willing to take responsibility for "errors" and "deadly mistakes" that are political, commercial and societal in origin.

H. David Crombie, M.D.
Editor



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Of Deceptive Advertising and Deceitful Language

In November 1999, United Healthcare announced that they would no longer require physicians to obtain prior approval for certain treatments and procedures for their patients. Amidst great flourish, and with serious demeanor, they declared that they were graciously turning health care decisions "back to the physician and the patient."

They also announced at the same time with refreshing candor, albeit a significantly lesser degree of ruffles and flourishes, that this act of rudimentary intelligence would save them $100 million.

Finally, to put it quite bluntly, United Healthcare announced that they were going to return to punishing physicians who put their patient first the old fashioned way. In other words, they were going to resurrect overt economic credentialing—practice profiles, "overcoding" screens, sanctions, and deselection. Most amazing of all was that the press, by and large, greeted this news as representing progress in health care! And to its shame, the medical profession for the most part mumbled passive approbation while failing to state the obvious—that this headline-grabbing announcement was Orwellian Newspeak of the most flagrant kind.

How did we get to the point where an announcement of the re-implementation of a concept so elementary as patient/physician joint decision-making would be greeted as a new and revolutionary concept? I suggest to you that we did it, in large part, by allowing and participating in the misuse and abuse of the English language over the last several decades. During the past quarter century or so we have undergone a planned and deliberate alteration of the English language in this country designed to do no less than to change the very way all of us think about physicians, and about medical care in general. And it has met with extraordinary success.

The first alteration was the most important. Medical care, which physicians traditionally render to their patients one-by-one and one-on-one, was linguistically communalized. It became "healthcare." No longer was the physician to direct full attention merely to the patient before him. Instead, our thought processes were redirected towards a more amorphous commonality. We were taught that we must think of our healthcare. The spending of "our limited health care dollars" was to be directed towards improving "the nation's health." Now, I admit that this last phrase does, in fact, predate American Newspeak. It was introduced into the modern lexicon by Adolph Hitler. But no matter. Once our attention was turned away from individual medical needs towards the more corporate concept of healthcare, we were able to escape from other pesky individualistic concepts such as patients and doctors, and move onto more elevating concepts such as healthcare systems, healthcare plans, and, of course, paying for our health care communally rather than as individuals. Now all that remained was to change the names of the individual participants in this brave new system. But that was simple, because we already had a thriving consumer movement.

So it was easy for patients to become "consumers of health care." A very utilitarian concept for the would-be communizers, really. Because consuming implies using up. And the health care planners had already determined that there were "too many doctors." So the physician's asset base was eaten away by leveraged buyouts and affiliations with now-bankrupt and otherwise defunct practice management companies. And today, whatever value remains in our practices is further eroded away on a daily basis by inadequate, delayed, or non-payment for services, and by the ultimate destroyers of medical practices, sanctions and deselection. Yes, the purported physician glut is being rapidly consumed. Unfortunately, along with practitioners, this policy is also bringing down some of our finest academic medical centers and best teaching hospitals as well. We may have consumed our future means of production in this process!

Of course, doctors became "providers." This allowed for the relentless blurring of professional qualifications. And it will eventually lead to the replacement of physicians in professional office settings with more generic substitutes. Such tactics usually succeed best through the use of alternative settings such as "Health Care Centers." In the latter, the qualifications of the person taking care of you generally are neither known, displayed, nor advertised. If "they" wear

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white, they can touch your body. And if they can touch you, they can diagnose and treat you. Perhaps, after a generation of “our children” (another neo-communal obligation) have passed through school-based healthcare centers and into the inevitable community healthcare centers, they will no longer understand concepts of professionalism such as “doctors,” and “doctor’s offices” at all. Then perhaps, health care providers will once again be allowed to distinguish themselves. Maybe they’ll do it by wearing tall white baker’s hats, as “healthcare providers” did, until a few years ago, in the former Soviet Union.

Most pernicious of all, we allowed fees for professional services to become “reimbursements.” No longer do we charge fair value for our exquisitely sophisticated, difficult, and dedicated work. Judging by our parlance, we merely dispense to the public those goods and services which are supplied to us wholesale by the healthcare corporations, or the government, as the case may be. And after dispensing what others stock our shelves with, so to speak, we go back to our suppliers and ask that our stock be replenished, ie, that we be “reimbursed.” In this way, the new language demeans us, and reduces our services to mere transactional functions.

I suggest to you that in order to recapture the profession, we must first regain control of the very language that we speak! Until we take this elementary step, we will continue to lose all of our battles and, ultimately, the war. While it might seem uplifting and patriotic to have physicians dedicated to the health of America, it would be much more beneficial, ennobling, and professional for us to speak of doctors caring for each individual patient in a highly skilled manner, and for us to be suitably recognized and appropriately rewarded for what only we can uniquely do.

So let’s mind our language. That simple act might do more to end the deceptive advertising and cascading loss of control of our profession than any other single thing that we could do!

“The words mean whatever I want them to mean!” — The Mad Hatter

Stephen R. Katz, M.D.,
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EOE

Brave New World that Has Such Creatures in It

ROBERT U. MASSEY, M.D.

TWELVE months ago I wrote about the approaching Y2K and contrasted our fading 20th century with those that preceded and followed the first millenium. Now that it is here, writing 2000 at the end of a date continues to send a slight chill, more like a tingle, but that will pass in time. When we speak rather than write a date, do we say "two thousand" or "20 hundred," or "20 aught aught" and in the years to follow, "aught one, aught two, aught three?" I remember my grandparents referring to events that had happened "Oh, maybe in aught two or three." "Twenty-first century" is easy enough, although purists remind us that 2000 is the last year of the 20th century, not the first of the 21st.

Those of us who long since have passed the Psalmist's three-score years and ten are really leftovers, emotionally, culturally, and intellectually, from the 19th century. Almost none of my teachers, including my first teachers, my parents, were born in the 20th century, or at least none later than 1905—Victorians and a few young Edwardians all. Culturally, it seems to me, the 19th century was not over until the night of 4 August 1914 when the Germans crossed the Belgian frontier. In high-school English we read no 20th-century authors; by inference we supposed that they were neither very good, nor really quite suitable for teenagers. In first-year German we read some simple stuff, children's fare, like *Emil und die Detektive* or *Pünktchen und Anton*, by the 20th-century German author Erich Kästner, but after that it was Goethe and Schiller and Theodor Storm all the way. My mother's modern history text (published about 1898) closed with an enthusiastic prediction for the new century—it would usher in a bright world of universal peace! Modern progress, already in full flower by 1899, would continue to shoot forth new blossoms of technical and moral amazements forever and ever, or so most thought. Even Henry Adams in 1905, imagining his 100th birthday with friends "allowed to return together for a holiday" in 1938, would see "for the first time since man began his education among the carnivores, they would find a world that sensitive and timid natures could regard without a shudder."

But by 1912 Thomas Mann was describing in *Death in Venice* a "month-long threatening countenance over all our continent." The century of everlasting peace was about to enter 86 years of almost continuous warfare which by now has spilled over into the 21st. Optimism about the future is far less evident now than it was in January 1900, but even as early as the mid 19th century gloom had crept in. Remember Alfred Tennyson's "Locksley Hall," parts of which we memorized and wondered over in high school:

> For I dipped into the future, far as human
> eye could see.
> Saw the Vision of the world, and all the
> wonder that would be;
> . . . .
> Heard the heavens fill with shouting, and
> there rained a ghastly dew
> From the nations' airy navies grappling
> in the central blue:

Already for Tennyson in 1842 the promised wonders of the Industrial Revolution were as apt to turn ugly as to provide a heaven on earth. Twenty-five years later in 1867 Matthew Arnold would sound similar notes of impending terror:

> Nor certitude, nor peace, nor help for
> pain:
> And we are here as on a darkling plain
> Swept with confused alarms of struggle
> and flight,
> Where ignorant armies clash by night.

But how with the DOW soaring to 20,000, 30,000, record-low levels of unemployment, life expectancy well past the three score and ten and rising, biomedical science about to discover the gene that makes us grow old so we can knock it out and live our narcissistic lives as long as we want (barring, of course, war, pestilence, famine, and plague), spend our hours of slothful leisure in virtual reality, and, if our HMOs would pay for it, have tiny computers with unlimited memory inserted in our brains in endless communication with our friends and relations, and all others similarly equipped. Surrounded by our clones, we would never be alone!

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ROBERT U. MASSEY, M.D., Professor Emeritus, Division of Humanistic Studies, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington.

Less fanciful perhaps, as our century ends, we may be on the verge of creating minimal gene sequences necessary to produce new organisms. "Creating a minimal genome would represent an important step forward in genetic engineering as it would permit the creation of organisms (new and existing) simply from knowing the sequence of their genomes."[1] How far is it from designing "minimal organisms" to designing any kind of organism we might imagine? And doing it with far greater elegance than Alphonse Frankensteen's crude efforts described in Mary Shelley's 1817 novel. Hutchison's group, writing in *Science*, suggest that no more than 265 to 350 protein-coding genes would be essential to make a "minimal mycoplasma."[2] The potential for both good and evil is difficult to exaggerate.

The problem, it seems to me, as we face the fallout from our clearly brilliant science and technology, is that our race is no more virtuous on average than it was in the year 1000 A.D. or 1000 B.C. There are always good guys and bad guys. Some time in the mid 17th century, at about the time of the disastrous Thirty Years War, a lay brother of the bare-footed Carmelites remarked in a conversation:

> That as for the miseries and sins he heard of daily in the world, he was so far from wondering at them that, on the contrary, he was surprised that there were not more, considering the malice sinners were capable of …

None of us can doubt that our store of virtues, our "social capital" has neither risen as spectacularly as the DOW nor as amazingly as our science and technology. Mildred Cho and her group at the Stanford University Center for Biomedical Ethics emphasize that the creation of "a new organism from a minimal genome is still a long way off." This, she writes, provides "an opportunity for proactive identification and debate on the ethical issues."[1] But surely there is money, fame, and power at stake here, and we know how corrupting that can be.

Biomedical ethics is a newcomer on the academic block. Since democracy rightly does not permit philosopher kings, recognizing in its wisdom that all power corrupts, it nevertheless has never fully rejected philosopher advisors. In what will surely be wild, exuberant growth of science and technology in the century to come, wisdom and prudence must never be lacking in the corridors of power.

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This Month's Reading in Review

TIMOTHY B. NORBECK

"A memo from the head of the American Association of Health Plans (AAHP) states that health insurers have 'themselves to blame for the public backlash against managed care.' Moreover, the AAHP urges members to consider the example set this month by United Health Group. In the memo—sent to more than 1,000 health plan executives—AAHP President Karen Ignagni cited the favorable public reaction to UnitedHealth Group's recent announcement to end pre-authorization requirements for referral, tests and hospitalization."

USA Today (26 November 1999)

"At least the industry now believes it has something to prove to the public rather than simply being interested in proving to Wall Street that it can limit costs and make a profit."

HMO critic, Jamie Court, in response
to the AAHP memo.

"Now that I have picked myself up from the floor, where I fell in astonishment after reading your HMO article, I have to ask the HMO executives who think they are so misunderstood, 'Who do you think you are fooling?' Do they really expect us to believe that medical decisions 'are always made by doctors, not by nurses or clerks?' Well, I worked for five years as a clerk for a major health insurer, and I never saw any decisions get even as far as a nurse. We clerks made the decision 99.9% of the time based on the health plan's requirements. It's time these executives woke up and realized that America is not going to stand for the lies anymore. My advice to anyone seeking a decision on a treatment is: Insist that your case be reviewed by a physician. Go to your human-resources department and ask that it get involved. Do not give up!"

From a letter to the editor from a Fresno, Cal.,
woman. *Newsweek* (29 November 1999)

Mercy Health Partners in Toledo, Ohio, has announced it will shift its unprofitable network of 119 employed physicians back to private practice.... Mercy President and CEO A. David Jimenez said that "This decision is not because we're falling apart financially. It's because we view it as a failed strategy. I think physician practices are best managed by physicians themselves," he added.

Modern Healthcare (29 November 1999)

The American Medical Association (AMA) filed an injunctive relief lawsuit in federal court on 2 December charging Donna E. Shalala, secretary of the U.S. Department of Health and Human Services (HHS), with acting contrary to the intent of Congress by refusing to exercise her authority to correct errors in the system used by Medicare to pay physicians for care provided to the nation's elderly. The issue at the heart of the action filed in the U.S. District Court for the Northern District of Illinois is how the Sustainable Growth Rate (SGR) was calculated in 1998 and 1999. The SGR is a critical part of the methodology used by the Health Care Financing Administration (HCFA) to adjust the annual update of payments for physician services under Medicare.

The AMA maintains that by continuing to use projections in place of actual values, HCFA has erroneously underestimated the growth in Medicare spending. Failure to correct the SGR errors has resulted in an unlawful fiscal burden for physicians estimated at three billion dollars. Although HCFA had promised to make the corrections to its erroneous projections in a regulation it issued shortly after enactment of the Balanced Budget Act in 1997, it reneged on this promise the following year.

"Physicians have endured years of under-compensation without ever abandoning Medicare patients," according to AMA President Thomas R. Reardon, MD. "HCFA's ongoing refusal to use actual values in calculating the SGR is the equivalent of asking physicians to care for approximately one million Medicare patients annually without compensation."

AMA Release (3 December 1999)

Only in America: Mayan Dreams Imports, in New York, posts this sign in its booth at a holiday gift fair in Grand Central Terminal: "If you are grouchy, irritable, or just plain mean, there will be a $10 charge for putting up with you."

Wall Street Journal (9 December 1999)

Couldn't Resist This One: "A merry Christmas to all my friends except two." W. C. Fields

Best wishes for a joyous and healthy holiday season, and Happy New Year 2000!

TIMOTHY B. NORBECK, Executive Director, Connecticut State Medical Society, New Haven.

IN MEMORIAM

ANDERSON, HARRY B., Indiana University School of Medicine, 1941. Dr. Anderson began his practice of medicine in West Virginia in 1945, relocating to Connecticut in 1952. He practiced medicine in Bridgeport for 40 years and was a member of the staff of St. Vincent's Medical Center and Bridgeport Hospital and on the courtesy staff of Park City Hospital. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Anderson died 12 November 1999 at the age of 86.

BECK, SIDNEY H., University of Rochester School of Medicine and Dentistry, 1934. Dr. Beck practiced urology in Bridgeport from 1940 to 1972. He served as president of the medical staff and chief of urology at St. Vincent's Medical Center. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Beck died 21 November 1999 at the age of 92.

BROWN, JR., FREEMAN F., Columbia University College of Physicians and Surgeons, 1940. Dr. Brown initially practiced medicine in Rockland, leaving in 1949 for additional training in anesthesiology. He served on the staff of Hartford Hospital and later relocated to the staff of Charlotte Hungerford Hospital for the remainder of his career. He was a member of the Litchfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Brown died 18 November 1999 at the age of 85.

DEPASQUALE, JOHN A., University of Pennsylvania School of Medicine, 1936. Dr. DePasquale retired from the practice of medicine in 1979. He had specialized in trauma emergencies. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. DePasquale died 23 November 1999 at the age of 91.

GAROFALO, MARIO L., Facolta di Medicina e Chiurgia dell'Universita de Napoli, Italy, 1935. Dr. Garofalo, an anesthesiologist, was the founder and head of the department of anesthesiology at the Hospital of St. Raphael from 1946 until his retirement in 1973. He was member of the New Haven County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Garofalo died 25 November 1999 at the age of 92.

GOOD, PHILIP S., Yale University School of Medicine, 1945. Dr. Good, a Waterbury ophthalmologist, was attending physician at St. Mary's Hospital and Waterbury Hospital and served as president of the medical staff of St. Mary's Hospital for one year. He was a member of the New Haven County Medical Association and the Connecticut State Medical Society. Dr. Good died 17 December 1999 at the age of 78.

KRALL, IRVING HADLEY, State University of New York College of Medicine, 1937. Dr. Krall specialized in diseases of allergy and related lung diseases. He was an attending physician at St. Francis Hospital and Medical Center, and Mount Sinai and Hartford hospitals and was also a clinical instructor of allergy and immunology at the Yale University School of Medicine. Dr. Krall was founder and trustee of the Connecticut State Allergy Society and also served as its president. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Krall died 9 December 1999 at the age of 91.

POLAYES, IRVING M., Albany Medical College of Union University, 1959. Dr. Polayes, a plastic surgeon, retired from his New Haven practice in 1995. He was a member of the New Haven County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Polayes died 10 December 1999 at the age of 72.

POLITIS, ALBERT A., Faculty of Medicine University of Athens, Greece, 1959. Dr. Politis was a practicing psychiatrist in Fairfield and was associated with St. Vincent's Medical Center. In addition to the American Psychiatric Association, he was a member of the Fairfield County Medical Association and the Connecticut State Medical Society. Dr. Politis died 6 December 1999 at the age of 71.

RADDING, PHILIP, Harvard Medical School, 1948. Dr. Radding, an orthopaedic surgeon, maintained a private practice in Hartford from 1956 until his retirement in 1990. He was on the attending staff at St. Francis and Mount Sinai hospitals and was an assistant clinical professor at the University of Connecticut School of Medicine. He was a member of the Hartford County Medical Association and the Connecticut State Medical Society. Dr. Radding died 22 December 1999 at the age of 75.

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The Society maintains the Physician Placement Service as a *free* service to the medical profession, hospitals, and communities in Connecticut.

***Opportunities* should be typed, double-spaced copy on letterhead and submitted to CSMS, Physician Placement Service, 160 St. Ronan Street, New Haven, CT 06511 (203) 865-0587 or fax to (203) 865-4997. These will be published as space permits and will be distributed to physicians inquiring about such *opportunities*.**

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(continued on next page)

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In your own words, please describe (in 200 words or less) why this nominee should be considered for the Connecticut State Medical Society's Distinguished Citizen Award.

(cont. on next page)

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Please complete the following (***print or type***). Include all organizations which the nominee has served. If you need additional space, please duplicate this page. (Note: The CSMS may need to contact the organizations for clarification and verification.)

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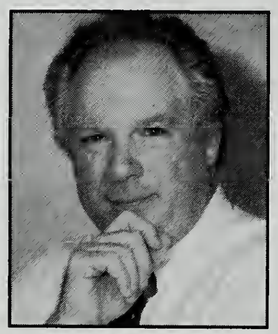

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Perinatal Regionalization: Old Lessons for the New Millennium

MARILYN R. SANDERS, M.D.

PRIOR to the 1960s, premature infants in the United States were cared for by pioneering pediatricians, such as Dr. Harry Gordon of New York Hospital, or by showmen such as Dr. Martin Cooney who displayed premature infants as a sideshow at Coney Island. Slowly, hospital-based units for premature infants were developed, aided by newly available funding through Hill-Burton legislation which provided capital for hospital construction. At the same time, systematic training for pediatricians who chose to dedicate their professional careers to caring for critically ill newborns was implemented.[1]

An evolving understanding of the pathophysiology of respiratory distress syndrome (RDS) and the use of continuous positive airway pressure in the treatment of RDS, together, gave medical providers new hope for altering the outcomes for premature infants.[2] In 1971, with the guidance of Dr. Joseph Butterfield, the American Medical Association House of Delegates passed a resolution supporting the development of "specialized centers for newborn intensive care" in regional facilities for high-risk mothers and infants.[3] Subsequently with the formation of sub-boards of the American College of Obstetricians and Gynecologists in maternal-fetal medicine (1972) and the American Academy of Pediatrics in neonatology-perinatology (1973), specialized care for high-risk mothers and their infants became formally recognized specialities.[1]

There was significant controversy regarding which hospitals and physicians should be providing care to high-risk mothers and their newborns. Early pioneers of regionalization recognized that provision of high-risk care required a level of training and expertise which was not available in most hospital settings and that unnecessary duplication of services would be financially costly. Thus, the scarcity of trained personnel to care for sick newborns and the recognition of the costs of maintaining these skills were significant driving forces behind early regionalization efforts.[4-6]

Early proponents also recognized the essential collaboration required between the community hospital and tertiary setting to provide optimal care. As Merkatz and Johnson wrote in 1976, "For regionalization to work, it is clear that the unique role of both community and university hospitals be acknowledged and that the relative advantage of highly specialized facilities be interpreted as a function of a community's capital investment, separate from the level of professional talent. Whether one uses a desk calculator or a large computer is a reflection of need and not an indicator of inherent ability."[7]

In the Hartford area, specialized care for critically ill infants began in the late 1960s. The first local infant to be mechanically ventilated was the daughter of Dr. Robert Harris who had recently trained as a neonatologist. In 1967, Dr Harris' daughter was diagnosed with an anomalous left coronary artery, and she required mechanical ventilation subsequent to surgery at Hartford Hospital. In 1969, Dr. Harris and Dr. Leon Chameides, who began the local pediatric cardiology program, opened the area's first newborn intensive care unit (NICU) at Hartford Hospital.[8]

Among the individuals who recognized the potential of this new speciality was Dr. Milton Markowitz who was assembling the Department of Pediatrics for the new University of Connecticut School of Medicine. Discussions began between Dr. Markowitz and Dr. John Raye in

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MARILYN R. SANDERS, M.D., Associate Professor of Pediatrics, Division of Neonatology, Department of Pediatrics, University of Connecticut School of Medicine, Farmington.

1969 which resulted in Dr. Raye's arrival in Connecticut in 1971 to develop program services. Dr. Raye attended at New Britain General Hospital which then had an eight bed newborn intensive care nursery. By 1973, Dr. Raye had organized a joint fellowship program in neonatology which included Hartford Hospital, Mt. Sinai Hospital, St. Francis Hospital, and New Britain General Hospital. On 25 March 1975, the Northern Connecticut Regional Newborn Referral Program was "born" with the opening of the John Dempsey Hospital/ University of Connecticut Health Center Newborn Intensive Care Unit (JDH/UCHC NICU).[9]

One of the initial efforts of this new regional program was the establishment of a newborn transport service for northern Connecticut. Using seed money from the March of Dimes, a specialized newborn transport van was purchased. Initially, all the babies were transported by Dr. Raye and his colleagues. Soon, Dr. David Nochimson arrived at the University of Connecticut to develop the maternal-fetal medicine program. Along with his nursing colleague, Ms. Jayne Montgomery, Dr. Nochimson developed the University of Connecticut Regional Network (UNICORN) and referral system.[9]

In 1977, Dr. Hema DeSilva who had been trained in the combined fellowship program opened the St. Francis Hospital NICU. In 1980, Dr. Antoinette Capriglione assumed the leadership at the New Britian General Hospital NICU.[10] Until 1980, Dr. Robert Harris and his partners, also neonatologists, staffed the Hartford Hospital NICU and cared for patients in their general pediatric practice. In 1981, Dr. Victor Herson who completed the neonatology fellowship at the University of Connecticut became the first full-time director of the Hartford Hospital NICU.[11] By the end of the 1970s, the Greater Hartford area had four specialized facilities, JDH/UCHC, Hartford Hospital, St. Francis, and New Britain General Hospital, to care for high-risk mothers and their newborns.

In 1977, the Committee on Perinatal Health which included participants from the American Academy of Family Physicians, the American Academy of Pediatrics, the American College of Obstetrics and Gynecology, and the American Medical Association published "Toward Improving the Outcome of Pregnancy." This landmark publication defined the three levels of care which we have come to associate with antenatal/neonatal services:

Level 1 (uncomplicated deliveries), Level 2 (some complicated pregnancies, deliveries, and infants), and Level 3 (full services for antenatal, delivery, and newborn care for all pregnancy/newborn related complications). The Committee on Perinatal Health stressed the need for ongoing collaborative relationships between Level 1, 2, and 3 centers and the obligation of Level 3 centers to provide leadership and education for their referring hospitals.[12]

In the mid 1980s, the Robert Wood Johnson (RWJ) Foundation reported the results of a national demonstration project which funded the development of eight regional perinatal/neonatal centers. In 1970, only about a third of high-risk infants in the funded regions were delivered in a Level 3 center. By 1978–1979, 50% of low birth weight (LBW, < 2500 grams birth weight) and 60% of very low birth weight (VLBW, < 1500 grams birth weight) infants were delivered in tertiary settings. Neonatal mortality decreased dramatically in both RWJ and comparison regions over the course of the study. The regions with greater increases in the proportion of infants born in tertiary centers experienced greater declines in neonatal mortality rates.[13]

In the late 1980s and early 1990s, emerging managed care penetration, increasing hospital competitiveness, and the availability of large numbers of skilled providers began eroding regionalized perinatal systems. There were now increasing numbers of neonatologists and skilled nurse practitioners graduating from university training programs. In 1985, there were 1,346 board-certified neonatologists. Based upon several models, the American Academy of Pediatrics said that the supply of neonatologists was adequate at the time and that increasing numbers of job opportunities represented "institutional entrepreneurial efforts rather than patient need ...." Neonatologists began assuming newborn care in some Level 1 hospitals and newly opened "Level 2" NICUs began proliferating throughout the country.[14] By 1997, when the first formal directory of neonatologists was published, over 3,500 physicians were practicing neonatology in the United States.[15]

In the early 1990s, the Committee on Perinatal Health again convened with March of Dimes sponsorship to provide an updated review of the state of regionalization and current challenges facing perinatal regionalization. Included in the identified challenges to effective delivery of perinatal care were: 1) increased numbers of uninsured women and children, 2) hospital competition, and 3) managed care systems. As the Committee concluded, "While the distribution of personnel and equipment was identified as a major barrier in the 1970s, financing issues have emerged as key barriers to appropriate perinatal care."[16]

In their report, the Committee continued to support three levels of perinatal care which they now designated as Basic, Specialty, and Subspecialty Care. They stressed a new focus on prevention and ambulatory care and emphasized the importance of data, documentation, and evaluation. Finally, they recommended designation of formalized perinatal regions and that each state have a Perinatal Board which had responsibility for coordinating planning, data collection, and education.[16]

Also in the early 1990s, a consultant group was asked to assess current and future needs for NICU beds in the Greater Hartford area and to analyze the competitive pressures impacting upon perinatal regionalization. The consultant team interviewed health-care providers and individuals from hospitals, health maintenance organizations, insurance companies, businesses, state agencies, and community groups. The consultants concluded that the current NICU capacity (99 beds) in the Greater Hartford area was adequate to meet regional needs. They reported that local Level 2 hospitals appropriately transferred out extremely low-birth-weight (ELBW, < 1,000 grams birth weight) infants and that none of the Level 1 hospitals had sufficient volume to justify upgrading services. The consultants also recognized that evolving competitive pressures, especially to upgrade local obstetric/newborn services threatened to result in a proliferation of small Level 2 units which would be expensive duplications of existing services. Finally, they believed that managed care penetration and competition for contracts might erode support for the regional infrastructure provided by the University of Connecticut.[17]

As we prepare to enter the next millennium, some may ask, "Does a need still exist for perinatal regionalization?" or "Should we let market forces determine whether specialized, regionalized perinatal/newborn care continues?"

Recent studies continue to report enhanced survival for high-risk infants cared for in tertiary centers. Yeast et al compared live births and neonatal mortality between 1982–1986 and 1990–1994 by hospital of delivery in Missouri. Only Level 3 centers experienced significant improvement in VLBW and ELBW infant mortality. Level 3 centers experienced a 200% increase in VLBW and ELBW survival, compared to Level 1 or Level 2 centers.[18]

Furthermore, Phibbs compared the effects of patient volume and level of care on neonatal-related mortality in 53,229 infants born in California who were classified as probable NICU admissions. Infants born in a Level 3 NICU with average daily census of > 15 infants had significantly lower risk-adjusted neonatal mortality. Infants born in Level 2 or 2+ hospitals had risk-adjusted mortality similar to those born in Level 1 hospitals.[19]

Recent data from California reports that maternal ethnicity and age impact upon whether VLBW births occur at a Level 1 hospital or in an NICU setting.[20] In Connecticut, there are already substantial disparities between birth rates of LBW and VLBW infants between white and black and Hispanic women.[21] Care in a tertiary level NICU remains a safety net for some disenfranchised women and their infants.

Thus, recent outcome data continue to substantiate the advantages of care in a tertiary setting for high-risk newborns. For those tertiary centers designated as regional referral centers, significant infrastructure is necessary to support patient care and programmatic needs on a 24-hour/day basis. For example, regional referral centers must accept the responsibility of consultation, triage, and transport for those critically ill infants who are, of necessity, delivered outside the tertiary setting. The costs of staffing and maintaining a transport system are substantial and often not fully retrievable through traditional insurance mechanisms.

In addition, there is a continued need for outreach education and consultation to community hospitals to enhance acute care provided at the local level and to accommodate infants in back transfer and postdischarge. There must be also ongoing and active feedback to assess whether community hospital needs are being appropriately addressed by their regional referral center.

Were perinatal regionalization to dissolve, who will assume responsibility for support of physician consultation and infant transport, organization of outreach education efforts for physicians and nurses and the leadership to coordinate planning designed to meet the evolving needs of mothers and infants?

While we must recognize the financial pressures which encourage hospitals and providers toward providing "higher levels of care," we should promote novel models of collaboration and alliance between community (Level 1) hospitals and specialty centers (Level 2) and their regional, referral centers (Level 3). Could some of the pressure to be a "full-service" institution by a Level 1 or Level 2 hospital be alleviated by a formalized and public partnership with a regional/tertiary center?

It is time to move away from the voluntary cooperation model of the 1970s and 1980s, toward a more formalized system of perinatal regionalization which recognizes the mutual strengths of all of the cooperating hospitals and includes formalized obligations between cooperating institutions. A state-wide Perinatal Board should be established and charged with oversight both for the system and a regional/statewide data base which assists in setting priorities and developing methodology for evaluation of the success of regionalization. We must also explore new partnerships with state and legislative agencies and consumer groups to work toward enhancing the health of women and infants in our state.

In the final year of the 20th century, it is imperative that we revisit our history so that we do not repeat it. The effort to establish perinatal regionalization in Connecticut was enormous, and it occurred in an environment in which hospital growth was substantial and money was readily available. The gains were substantial and long-lasting. As a society, we cannot afford to let the system de-evolve because we cannot afford the rebuilding, either in terms of human or financial costs.

Acknowledgments

The author wishes to thank Drs. Antoinette Capriglione, Robert Harris, Victor Herson, and John Raye for their willingness to provide information on the development of intensive care services in the Greater Hartford area. The author also gratefully acknowledges Dr. Hema DeSilva for his thoughtful review of this manuscript.

This manuscript is dedicated to the memory of Dr. Joseph Butterfield, a pioneer of newborn regionalization, without whom regionalized perinatal care might never have been realized.

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Osteoporosis: A Factor in Mortality Following Cardiac Surgery

HENRY N. BLANSFIELD, M.D. AND CATHERINE B. ANDREW, M.A.

ABSTRACT—Osteoporosis may be a significant factor in unfavorable results following open cardiac surgery. This brief case report describes the fatal outcome of mitral valve replacement in an elderly woman with congestive heart failure complicated by severe osteoporosis. Profound collapse of the thoracic spine resulted in pulmonary insufficiency. The discussion includes substantiation that this phenomenon is not unusual but rather can be expected to occur in postmenopausal women who are inactive, not receiving calcium and vitamin D supplements, and are suffering from congestive heart failure for which loop diuretics are administered. Bone mineral density testing is essential to determine and track the efficacy of treatment.

Introduction

THE fatal outcome of an attempt to extend the life of an elderly woman with congestive heart failure (CHF) secondary to mitral regurgitation and atrial fibrillation by valve replacement is the subject of this report. The complicating lethal factor of severe osteoporosis in postmenopausal women with CHF is discussed. It is stressed that early identification and vigorous treatment is necessary as a preventive measure.

Case report.—AL, a 77-year-old white married female, suffered from progressive cardiac failure as a result of mitral insufficiency and chronic atrial fibrillation. Pulmonary hypertension and peripheral edema were becoming resistant to therapy including loop diuretics, low salt intake, and digoxin. She was completely sedentary and house bound due to her cardiac disease. In December 1993 a roentgenogram of the spine revealed osteopenia and degenerative changes in the lumbar spine accompanied by scoliosis. In August 1997 roentgenograms of the spine again revealed osteopenia and moderate kyphosis of the thoracic spine. Narrowing of the disc spaces of the lumbar vertebra was also noted. No assessment of bone mineral density was obtained. However, calcium and vitamin D supplements plus intranasal calcitonin-salmon were begun in early 1998. Because of reflux esophagitis, alendronate could not be administered.

After a cardiologist's evaluation that resulted in a prognosis for continued life limited to three to six months, consultation with a cardiac surgeon was obtained. She was considered to be a satisfactory candidate for open heart surgery and mitral valve replacement through a sternotomy approach was carried out in March 1998.

Despite the excellent function of the mitral valve prosthesis, the immediate postoperative course was marked by the necessity for prolonged endotracheal respiratory support and, after extubation, by recurring episodes of pulmonary insufficiency necessitating respiratory therapy. She also complained of weakness and generalized musculoskeletal discomfort requiring relief with opiates. Transfer to a skilled nursing facility, where respiratory and physical therapy were carried out daily, finally resulted in her ability to be at home accompanied by an aide.

Hospitalization was again necessary for nine days in June 1998 because of severe dyspnea and orthopnea. When seen in the emergency department her respirations were gasping and shallow at a rate of 40 per minute. The PO2 was 48. Physical examination of the chest revealed

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HENRY N. BLANSFIELD, M.D., F.A.C.S., general surgeon, retired, part-time pro bono, Ford-Seifert Clinic run by Danbury Hospital; CATHERINE B. ANDREW, M.A., B.S.R.N., nursing degree from University of Vermont, previously in ICU at Beth Israel Hospital, Boston.

pronounced kyphoscoliosis. Basilar rales were audible on auscultation. Chest roentgenogram revealed a raised right hemidiaphragm due to atelectasis of the right lower lobe with an infiltrate in the right middle lobe as well. It was observed that she had developed severe dorsal kyphosis hampering thoracic cage respiratory movement. Spirometry revealed a marked restrictive respiratory defect accompanied by a mild obstructive component. Additional roentgenogram studies during this hospitalization showed generalized bone demineralization. For the first time two contiguous mid-thoracic vertebral compression fractures as well as compression of the upper lumbar vertebrae were noted. Skull roentgenograms and a roentgenogram of the right humerus also were reported as compatible with generalized osteoporosis.

After a second nursing home stay during which episodes of respiratory insufficiency required supplemental oxygen, she was discharged home with nursing aides in attendance 24 hours a day. Her thoracic deformity was so pronounced that she was unable to recline comfortably and was forced to sleep semiupright in a chair. Her respiratory difficulties persisted intermittently despite the administration of supplemental oxygen. Early one morning she was found dead by an aide. No postmortem examination was obtained.

Discussion

Risk factors for osteoporosis in patients with end-stage cardiac disease include being Caucasian, elderly, female, postmenopausal, and physically inactive. Prolonged use of loop diuretics increase urinary calcium losses. Congestive heart failure, if severe enough, is associated with lowered Vitamin D synthesis due to physical limitations restricting outdoor activities that are associated with necessary exposure to the sunlight. Alterations in liver and intestinal function secondary to severe right heart failure and passive visceral congestion may interfere with the absorption of dietary vitamin D and the hepatic synthesis of 1,25-dihydroxyvitamin D. Congestive heart failure alteration of renal function could also affect the synthesis of 1,25-dihydroxyvitamin D leading to abnormal vitamin D metabolism and secondary hyperparathyroidism.[1]

In a study of osteoporosis and bone morbidity among 31 adult male cardiac transplant recipients and 14 men with CHF, awaiting transplantation, Lee et al noted that severe CHF with associated use of loop diuretics and decreased activity are primary contributors to the development of osteopenia among these patients.[2] The use of loop diuretics as opposed to thiazides resulting in the development of osteopenia appears to be due to more rapid bone turnover following the increased excretion of urinary calcium leading to reduced bone mineral density.[3]

Recommendations

Patients with CHF, especially those who have been treated with loop diuretics, who are inactive, chronically unexposed to the sun as a source of vitamin D, and, in the case of females, are postmenopausal, should be evaluated as early as possible and, thereafter, periodically for bone mineral density. The most commonly used technique today is dual energy roentgenogram absorptiometry. It is performed on both vertebrae and femoral neck areas. Persons with bone mineral density >2.5SD (standard deviations below the young adult mean) have a high risk of osteoporotic fractures. It is claimed that broadband ultrasound attenuation of the calcaneus may be predictive of the risk of hip fracture in elderly women almost equally as well as bone densitometry.[4]

If these patients are found to be osteopenic they should be encouraged to exercise, cease smoking, and consume supplemental calcium and vitamin D. Calcium intake should be approximately 1,500 mg and vitamin D 800 IU per day. Intranasal calcitonin-salmon and bisphosphonates have been proved effective in retarding postmenopausal bone loss and reducing the risk of fracture.[5] Estrogen strongly blocks osteoclast function. In menopausal women estrogen administration produces long-term benefits including a marked decrease in the rate of fractures. The beneficial effect of estrogen replacement is proportional to the duration of treatment.[6] In women who retain a uterus, raloxifene, a mixed estrogen agonist/antagonist, can be administered. The recommended dose is 60 mg orally per day. It reduces bone turnover, has an antagonist effect on the uterus without causing endometrial hyperplasia, and subsequent uterine bleeding.[7] In experimental animals it has also been shown to inhibit the growth of mammary tumors and would presumably be safe to administer to patients with a family history placing them at increased risk for the development of breast cancer.

Conclusions

This case report illustrates a factor in cardiac surgery morbidity and mortality in patients with CHF that can be avoided if the morbid nature of osteopenia and osteoporosis can be identified and remedied prior to operative intervention. Calcium deficiency is an increased risk factor in these patients due to the effects of passive congestion on the kidneys, liver, and intestinal tract. Loop diuretics are associated with increased calcium loss. Bone mineral density testing is a necessary adjunct in evaluating the presence of osteoporosis and the efficacy of therapy. Estrogen replacement in postmenopausal women, exercise, drugs such as bisphosphonates, and dietary supplements containing vitamin D and calcium may be helpful over the long term in preventing a potentially devastating and morbid collapse of the corporal bony structures which, in this case, led to fatal restrictive respiratory insufficiency.

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Clinical Correction—Breast Cancer Study Flawed

Since the publication of the manuscript entitled, "The Sound and the Fury: An Update on the Role of High-Dose Chemotherapy and Autologous Stem Cell Salvage for Both Metastatic and High-Risk Breast Cancer," which appeared in the January 2000 issue of the Journal of the Connecticut State Medical Society, certain new clinical information has become available regarding the role of high-dose chemotherapy in patients with high-risk breast cancer. Specifically, the data from the South African trial (Ref. 14), as presented by Warner Bezwoda at the plenary session of the annual meeting of the American Society of Clinical Oncology (ASCO) in May 1999, has been called into question. An auditing team from the National Cancer Institite reported significant deviations from standard conduct in following a research protocol, and Professor P. Cleaton-Jones, chair of the University of Witwatersrand Committee for Research on Human Subjects, has stated that, "a serious breach of scientific honesty and integrity" was committed during the study. Therefore, the results of this investigation, the only study presented at the ASCO plenary session to clearly indicate a survival benefit for the high-dose regimen in women with high-risk breast cancer, needs to be called into question and, as such, should not be used to counsel patients to proceed off protocol with a high-dose chemotherapy approach toward the treatment of their malignancy.

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Glaucoma and Race:
A Case for Screening in Connecticut

PHILIP PALMISANO, M.D., MARGARET HYNES, Ph.D., AND LLOYD MUELLER, Ph.D.

ABSTRACT—This study is a review of the current literature regarding the relationship of primary open angle glaucoma and race. There is strong evidence that blacks have a much higher prevalence rate of this disease. They also tend to have a more severe clinical course. Glaucoma is the leading cause of irreversible blindness in blacks. The number of blacks in Connecticut with glaucoma is estimated to be between 14,000 and 21,000, and it is estimated that up to half of these cases are currently undetected. New technology has made screening for glaucoma more practical and cost-effective. This study suggests that glaucoma screening would be beneficial for the black population of Connecticut.

Introduction

IDENTIFICATION of racial and ethnic variation in disease has long been a priority of epidemiologists and health policy analysts. Variations in disease incidence, prevalence, age of presentation, and degree of morbidity are potentially helpful for estimating whether a given health plan or program is effectively meeting public health needs, and also have important policy and planning implications. One disease which seems to exhibit particularly large racial differences is primary open angle glaucoma, (POAG). This is an eye condition that is characterized by elevated intraocular pressure (IOP) and optic nerve damage with peripheral visual field loss and, ultimately, loss of vision.

Over the past 40 years, ophthalmologists have observed that glaucoma is far more common and more severe among the black compared to the white population. Two large-scale studies and a number of smaller studies have yielded numerical estimates that support this observation. Although blacks constitute 15% of the population, they make up as much as one third of all POAG cases in the United States.[1] They acquire POAG at a younger age, and blacks with glaucoma are diagnosed more often with severe optic nerve damage.[1] They are more likely to have co-existing medical conditions such as diabetes and hypertension that are associated with more severe glaucoma damage, and they are more likely to become blind from glaucoma (AAO preferred practice guidelines, 1998). These established estimates can be used along with U.S. census population estimates for Connecticut to estimate the disease burden of POAG among blacks in Connecticut.

Review of the Literature

A) *Study methods:*

Three studies were selected which had large enough study populations to provide stable estimates of POAG prevalence by race. While the methods and populations sampled varied across studies, the pattern of results was consistent.

The Baltimore Eye Survey was a population-based study of the prevalence of POAG among white and black residents of Baltimore, Maryland, conducted from 1985 to 1988.[2] A total of 5,308 subjects, self-identified as 2,913 white and 2,395 black, received a screening eye examination. This examination consisted of measurements of refraction and visual acuity, visual field testing, intraocular pressure, and stereo-photography of the optic nerves.

PHILIP PALMISANO, M.D., Physician, Middlesex Eye Physicians, Middletown; MARGARET HYNES, Ph.D., and LLOYD MUELLER, Ph.D., Health Policy Analysts, Connecticut Department of Health, Division of Policy and Planning.

Based on the outcome of these tests, glaucoma suspects were then referred to the Wilmer Eye Institute at Johns Hopkins University for further evaluation.

Another large-scale effort to examine racial differences in glaucoma was the Barbados Eye Study, sponsored by the National Eye Institute from 1991-1992.[3] This was a population-based study of rural, mostly black residents of Barbados, West Indies. Participants' racial status was based on self-report. It included 4,314 blacks, 184 of mixed race, and 133 caucasians. Each study participant underwent an examination including visual acuity, IOP measurement, visual field examination, and stereo-photography of the optic nerves. Those with abnormal results, and an additional 10% from the study sample, randomly selected, were referred for more comprehensive examination and additional tests. The Barbados study included a detailed survey of potential risk factors for glaucoma. Personal characteristics such as age, sex, years of education, body mass index, iris color, and complexion were examined. The survey also encompassed detailed medical characteristics such as blood pressure, history of cardiovascular disease, migraine headache, diabetes, smoking, alcohol use, family history, ocular characteristics such as cataract or other eye diseases, and age-adjusted risk of POAG.

Quigley and Vitale's meta-analysis synthesized data from 111 published studies worldwide and included over 40,000 subjects.[1] These results were combined with census estimates to develop a statistical model to estimate the prevalence of POAG in the U.S. among whites and blacks. Strict criteria were used in an effort to include only those studies with the most well-supported data. Design features included random sampling from a representative population; high rate of examination of the sample (>75%); clear diagnosis of POAG including abnormal optic nerve appearance, abnormal visual field examination, or both; and evidence that an experienced examiner made the diagnosis of POAG.

Table 1.—Estimated Prevalence and Relative Risk of Primary Open Angel Glaucoma (POAG) by Race

Study	**Prevalence Rate per 100 persons**		**Relative Risk**
	white	*black*	*black/white*
Tielsch et al (1991)	1.29	4.74	3.58
Leske et al (1995)	0.80	7.40	9.25
Quigley and Vitale (1997)	1.55 (0.49-8.34)*	4.62 (1.39-8.76)*	2.98

* Numbers in parentheses indicate C.I.

B) *Study results:*

All three major studies demonstrated a strong racial difference in the prevalence of POAG. The Baltimore Eye Survey estimated a POAG prevalence rate of 1.29% per 100 persons for whites, with blacks suffering a 4.74% rate. Similarly, the Barbados study showed a prevalence of 0.8% among whites *vs* a prevalence among blacks of nearly 7.4%. The prevalence for mixed race participants was 3.8%. The Quigley and Vitale meta-analysis estimated prevalence rates of 1.55% for whites, and 4.62% for blacks.

It should be noted that the Baltimore study and the Barbados study represented a significant proportion (approximately 12% to 14%) of the study patients in the meta-analysis. Results of the meta-analysis thus are not completely independent of those from the other two studies.

Discussion

The American Academy of Ophthalmology (AAO)[4] analyzed nationwide data, including data gathered by the CDC, and estimated that there are at least two million Americans with glaucoma, accounting for 8.7 million office visits per year.[5] This makes POAG the third most commonly used morbidity related medical diagnostic code reported for adult visits to physicians nationwide, following essential hypertension and diabetes. It is the most commonly used eye code, accounting for approximately 18% of ophthalmology office visits.[5] The cost of treatment for glaucoma has been conservatively estimated at more than $500 per year per patient. Visual field testing, laser treatment, and surgical treatment are not included in this estimate. Using these figures, the total cost of glaucoma treatment in the U.S. is currently well over $400 million.[1] It is estimated that half of the glaucoma sufferers nationwide do not know they have the disease.[1,2,4] Considering the high estimated prevalence of POAG, it is possibly the most under-diagnosed disease in the U.S.

As previously stated, POAG is the leading cause of blindness among blacks, and, race is currently considered the most useful single risk factor for POAG.[6] Glynn et al offer the following figures: blacks have four times the prevalence of glaucoma, and six to eight times the prevalence of resulting blindness.[7] The National Ambulatory Medical Care Survey (1991–1992) offers further evidence to corroborate racial differences in POAG, noting that blacks have higher rates of POAG, higher IOP, and POAG is the most common cause of irreversible blindness in that population. Blacks also exhibit signs of glaucoma at an earlier age. According to Quigley and Vitale, "The age distribution for black Americans with POAG is substantially different from that of white Americans. ... Despite the fact that blacks comprise 14.7% of the U.S. population, they comprise 25% of patients with POAG. In the 40–59 year age group blacks comprise 43.4% of those with POAG."[1] By virtue of this difference in age-of-onset, the average black American is expected to have glaucoma 27% longer than the average white American (16.3 *vs* 12.8 years).

There is no general agreement regarding why such a strong racial difference exists. Although some factors are consistently correlated with POAG, causation is more difficult to prove. In the Barbados study, high intra-ocular pressure, family history, lean body mass, and a history of cataracts were found to be correlated with glaucoma.[8] The Baltimore Eye Survey identified age, sex, race, and family history as the risk factors most consistently associated with POAG.[2] AAO identifies race, age, and family history as the primary risk factors for POAG (AAO monograph, 1996).

The Barbados study reported a much higher prevalence rate for POAG in blacks (7.4%) than other studies. Island environmental conditions, diet, genetic factors, or the prevalence of co-existing medical conditions in this more isolated population may influence the study findings. Nevertheless, the trend is consistent with those of other major studies.

In recent years, racial classifications used in health research have come under increasing scrutiny.[9,-13] Although medical research regularly treats racial status as an innate matter of risk, the scientific consensus against the biological basis of racial status is virtually universal.[14]

Race is a social rather than a biological system of classification. In the U.S., for example, racial classifications identify two categories, black and white, although it is a well known fact that many people have both black and white ancestors. Also, the concept of race has changed historically.[9,12] In recognition of the inaccuracy of, and popular dissatisfaction with, the single race system of classification, the U.S. Census for 2000 will allow people the option of reporting multi-racial identities.[17]

Available scientific evidence indicates that there is more genetic variation within than between racial groups. Biological differences between racial groups, taken alone, have limited power to account for group differences in disease.[13] Critical assessments underscore the importance of exploring the complex interactions between race, ethnic origin, and socioeconomic status, for the purpose of identifying why the variable "race" is so often an indicator of poor health and adverse health risks. The absence of sensitive measures for other social factors that effect health in important ways, race is best viewed as a proxy for these underlying characteristics.

The 1998 U.S. Census estimates the Connecticut population at 3,274,069 with the black population estimated at 303,271, or about 9%. If prevalence estimates of 4.62% to 7.00% are used, then there are between 14,000 and 21,000 blacks in Connecticut with POAG. Again, if AAO figures are accurate, approximately 50% of these patients do not know they have the disease. Glynn and Gurwitz found evidence that blacks may be undertreated by as much as 50%.[7]

Considering the severity of the disease in the black population, and the fact that the disease onset is so much younger in blacks, the prospect of up to 10,000 undiagnosed POAG patients in Connecticut is a great concern. The potential impact of this disease burden on the black population in terms of quality of life and lost productivity is considerable. The only plausible way to reduce this is early detection and treatment. POAG in blacks would seem to be an ideal disease for which screening may be useful. It is an established epidemiological principle that screening works best in situations where there is a high prevalence disease within an easily identified high-risk population.

Efforts at screening have not always proven effective. The most commonly used screening method, measuring intraocular pressure, is not sensitive or specific enough to detect glaucoma when used alone.[15] In fact, in a single visit, most patients with glaucoma have normal eye pressures. However, when IOP is combined with observation of the nerve head, or visual field examination (perimetry), the ability to screen for glaucoma rises dramatically.[16] Mundorf found that "evaluation of an abnormal visual field or an increased intraocular pressure would have correctly identified 100% of the glaucoma group and would have referred only one normal subject (false positive) and one suspect."[15] In the past, limiting factors included the availability of trained examiners, and the expense and time (up to 20 minutes per eye) involved in standard visual field testing. Recently, however, new technology in visual field assessment, such as the Henson or the Damata automated perimeters, has dramatically reduced the cost and time (less than three minutes per eye) required for visual field screening.[15] Some manufacturers at the 1999 AAO convention in Orlando, Florida were offering capable machines for approximately $12,000. If the machine were used to screen one hundred patients per week for one year, the cost per patient would be approximately $2.50. If the cost of the equipment is amortized over three years, the cost per patient would be under $1.00. Perimetry is now far more practical for routine use. Both IOP measurements and visual field examinations can be administered by less highly trained personnel, when no trained observer is available for optic nerve assessment.[18] It has been estimated that screening would be cost effective if started at age 30 for blacks, and age 50 for whites. This difference reflects the age and race variations in prevalence.[1]

Conclusion

POAG is a prominent example of a disease that exhibits racial differences in prevalence, presentation, and severity. Any efforts to address multiracial differences in health care should include this common disease and its associated morbidity. Now that modern screening technology has made a targeted approach to POAG more practical, it could be argued that more resources could be cost-effectively directed towards identifying and treating POAG in blacks. Finally, pilot-screening studies might be used to determine more accurately the prevalence of undiagnosed disease among blacks in Connecticut.

Acknowledgment

We would like to give special thanks to Marie V. Roberto, Dr.P.H., Chief, State of Connecticut Department of Public Health Office of Policy, Planning and Evaluation for helpful contributions to this manuscript.

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Diagnosis and Management of Spinal Epidural Space Extravasation Complicating Percutaneous Central Venous Line Placement in a Premature Infant: Case Report and Review of Literature

ANIRUDDHA VIDWANS, M.B.B.S., DAVID P. NEUMANN, M.D.,
NAVEED HUSSAIN, M.B.B.S., TED ROSENKRANTZ, M.D.,
AND MARILYN R. SANDERS, M.D.

ABSTRACT—Percutaneous central venous lines are commonly used to establish long-term venous access in the care of premature infants. Misplacement of these catheters can occur and may lead to significant morbidity and mortality. Here we report a very-low-birth-weight premature infant whose percutaneous central venous line was inadvertently placed into the spinal epidural space. The anatomical basis of this complication as well as a comprehensive review of literature are provided.

Introduction

INFANTS in the newborn intensive care unit (NICU), who require long-term parenteral therapy often need a central venous line placement subsequent to discontinuation of the umbilical arterial catheter (UAC) or umbilical venous catheter (UVC). Central venous access may be obtained by surgical placement of a Broviac® catheter or a Silastic® percutaneous central venous line (PCVL). Although PCVLs are an effective means of long-term intravenous access, it has been recognized that PCVL-related complications such as infection, leakage, occlusion, and dislodgment may result in significant morbidity or mortality.[1–3] One unusual complication from a PCVL placed via the saphenous vein or the femoral vein is the inadvertent cannulation of the ascending lumbar vein leading to the epidural venous plexus.[4–7] Retrograde flow of parenteral fluid into the epidural venous plexus from a venous thrombosis induced by a PCVL in the common iliac vein has also been reported.[8] Although these reports have highlighted the need for awareness of this complication, little is known about its clinical management. Here we report a case documenting the diagnosis and management of spinal epidural effusion of parenteral fluid.

ABBREVIATIONS USED IN TEXT

continuous positive airway pressure = CPAP
cerebrospinal fluid = CSF
newborn intensive care unit = NICU
percutaneous central venous line = PCVL
red blood cells = RBC
total parenteral nutrition = TPN
umbilical arterial catheter = UAC
umbilical venous catheter = UVC
very-low-birth-weight = VLBW
white blood cells = WBC

Case Report

The infant was a 965 gm, 27-week gestation female born to a 27-year-old Gravida 1, Para 0 (now 4) woman. She was the second of four live-born quadruplets. The infant required endotracheal intubation to treat severe respiratory distress. Apgar scores were 8^1 and 9^5. Initial care included placement of na umbilical arterial catheter (UAC) and umbilical venous catheter (UVC), administration of surfactant, screening blood counts and blood culture, and administration of ampicillin and gentamicin for suspected sepsis.

She was extubated on day two to nasal continuous positive airway pressure (CPAP). She received indomethacin for a large patent ductus arteriosus discovered on 2-D

ANIRUDDHA VIDWANS, M.B.B.S., Division of Neonatology, Department of Pediatrics; DAVID P. NEUMANN, M.D., Department of Radiology; NAVEED HUSSAIN, M.B.B.S., Department of Pediatrics; TED ROSENKRANTZ, M.D., Department of Pediatrics; MARILYN R. SANDERS, M.D., Department of Pediatrics, University of Connecticut School of Medicine, Farmington.

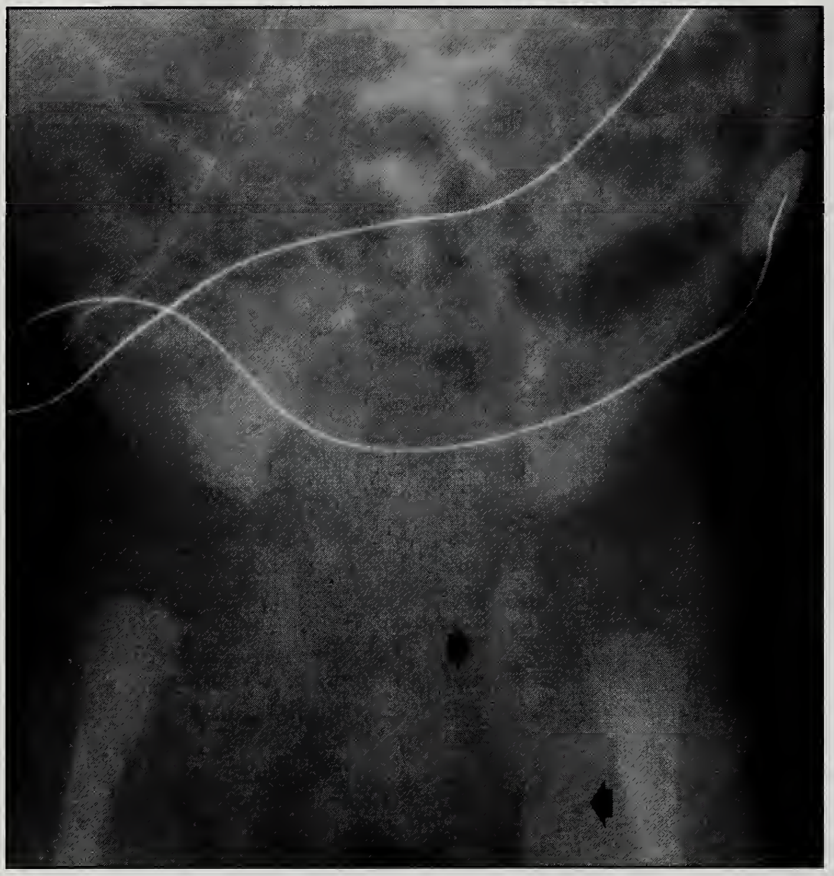

Figure 1.—Frontal radiograph of abdomen and pelvis shows the catheter path parallel to the spine after entering the abdominal cavity and a slight lateral deviation at the level of L5 which initially went unrecognized.

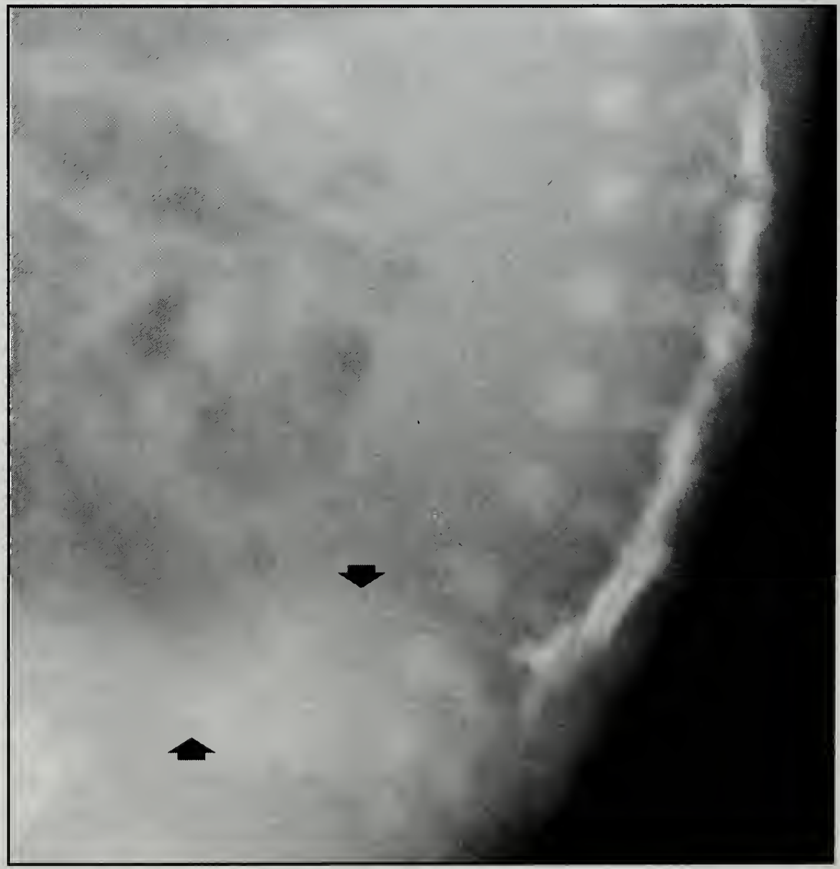

Figure 2: Lateral radiograph of pelvis including lumbar spine after contrast injection shows the tip of the catheter projecting over the spinal canal and opacification of the epidural space.

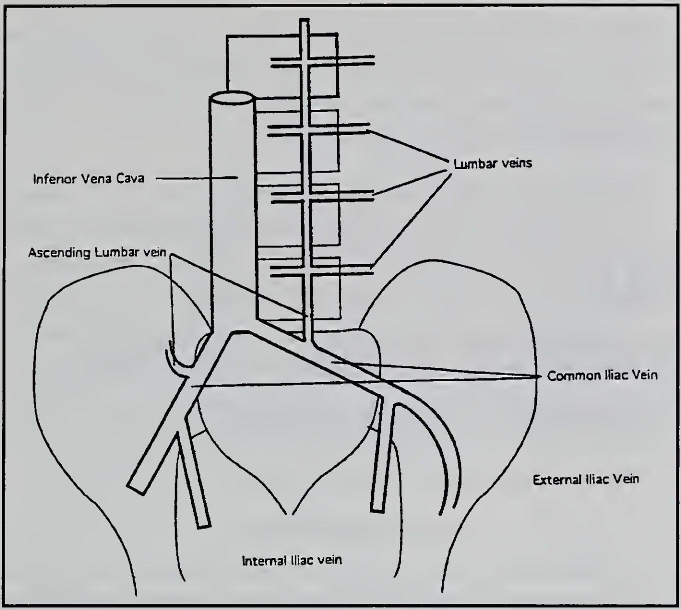

Figure 3.—Schematic diagram of veins of pelvis and lower abdomen. (Redrawn from Grant's Atlas of Anatomy, 9th edition, 1991, Williams and Wilkins, Baltimore, Ed: Anne M. R. Agur.) The left ascending lumbar vein is less angulated from the common iliac vein than the corresponding vein on the right.

echocardiogram. Her UAC had to be removed on day two due to vascular spasm and diminished blood flow to her lower extremities.

Trophic feeds were started on day four and advanced to continuous nasogastric feeds. Her UVC was removed on day eight. On day 11 a PCVL (Per-Q-Cath, Bard Access Systems, 2 Fr.) was inserted via the left saphenous vein by an experienced nurse practitioner and its intra-abdominal position was confirmed by anteroposterior abdominal roentgenogram (Fig. 1). She received total parenteral nutrition (TPN) with dextrose (12.5%), amino acids (3 gm/kg/d), and 20% intralipid (3 gm/kg/d) through this PCVL.

On day 13 (48 hours after placement of the PCVL), she appeared "sick" with an increasing number of apneic spells, worsening respiratory acidosis, poor color, and lethargy. She was intubated and placed on a ventilator. Blood counts showed a total white cell count of 19.4K with 31% polymorphonuclear cells, 29% lymphocytes, 21% monocytes, 19% bands, hematocrit of 33%, and platelet count of 282K. She received a packed red cell transfusion for anemia. Blood culture was drawn and she was started on Vancomycin and Cefotaxime.

A spinal tap was done which yielded milky white fluid. The fluid infusion through her PCVL was stopped immediately. Cerebrospinal fluid (CSF) examination showed 12,500 red blood cells (RBC) and 75 white blood cells (WBC) (65% polymorphs-nuclear cells and 35% mononuclear cells). Glucose was 7,000 mg/dL. No organisms were seen on the gram stain. Triglyceride level on her CSF was reported to be 1,027 mg/dL.

A spinal ultrasound was done to locate the tip of the catheter; however, the catheter could not be visualized due to its extremely small caliber. No abnormal fluid collections in the intraspinal area or in the paraspinal region were seen. Under fluoroscopy, on lateral abdominal view, the catheter could be seen entering the abdominal cavity and then turning sharply posteriorly and traversing to the vertebral level (Fig. 2). Using sterile technique, 0.8 ml of omnipaque was injected into the catheter. It caused immediate opacification of the epidural space (Fig. 2).

The PCVL was removed, and the baby was observed closely for signs of meningeal irritation, increased intracranial pressure, and spinal cord compression. Oxacillin was added for an additional antistaphylococcal coverage. Neurological examination remained normal. Lumbar puncture, repeated after three days, showed 11 RBCs and 21 WBCs (3% polymorpho-nuclear cells and 97% mononuclear cells). Cerebrospinal fluid glucose was 65 mg/dL, proteins 94 mg/dL, and triglycerides of 40 mg/dL. No organisms were seen on the gram stain. There were no lipid-laden macrophages.

After three days on the ventilator, she was extubated and placed on nasal CPAP. Antibiotics were discontinued after the second cerebrospinal fluid culture was negative. Her neurological examination remained normal until discharge home on day 52. No neurological or developmental abnormality was detected on postdischarge assessment at seven months of age.

Discussion

Critically ill children and newborn infants often need long-term parenteral nutrition and drug administration. Percutaneous placement of a central venous catheter has become an important adjunct to care in the intensive care unit. Percutaneous central venous lines are preferred as they can be nonsurgically placed by the nursery personnel without the need for sedation or anesthesia. Lower extremity veins, saphenous or femoral, are commonly used for placement of PCVL because of their large size and complication rates comparable to upper body venous access.[9,10]

Misplacement or migration of a femoral PCVL into the epidural venous plexus is rare, but has been previously reported.[4–8,11] A PCVL introduced into the femoral vein may gain access to the lumbar venous plexus via the ascending lumbar vein, which connects with the common iliac vein at the level of L4-L5 (Fig. 3). The ascending lumbar vein in turn communicates with the epidural venous plexus. Most reported cases of epidural venous plexus cannulation have occurred when left femoral access was used. This is explained by lesser angulation between the ascending lumbar vein and the common iliac vein on that side (Fig. 3). A review of the frontal radiograph in our patient revealed that the intra-abdominal course of the catheter was parallel to the spine, suggesting that it had entered the ascending lumbar vein. It also showed a subtle lateral deviation of the catheter tip at the level of L4-L5 consistent with its deflection into a lumbar vein (Fig. 1,3). This abnormal lateral deviation of the catheter as depicted on plain films has been previously reported by Lavandosky et al.[4]

Once the catheter enters the spinal epidural plexus it can perforate the vein and enter the epidural space[6,11] or perforate the dural sac and enter the subarachnoid space.[4,7] In our case, contrast traversing the vertebral column confirmed its epidural location. Also, absence of signs of meningeal irritation or persistence of cerebrospinal fluid pleocytosis after the episode suggests that the catheter was not in the subarachnoid space.

In all reported cases malposition was detected either following injection of contrast into the PCVL or by presence of parenteral nutrition fluid in lumbar puncture specimen. In our patient the CSF at the time of lumbar puncture was milky white and subsequent laboratory analysis showed high levels of glucose and triglyceride, components typical of hyperalimentation fluid. It is also possible that the tip of the spinal needle was in fact lying in the expanded epidural space and draining the collection of hyperalimentation fluid in that space. Such was the case in the report by Mah et al and Kelly et al.[8,11]

The potentially life-threatening nature of this complication is highlighted by Lavandosky et al[4] who reported a neonate who developed flaccid quadriparesis, no cortical response to somatosensory evoked potential, and brainstem abnormalities subsequent to catheter malposition. The infant died a few days later. A similar case was reported by White et al.[7] Severe central nervous system irritation and possibly cord compression (flaccid quadriparesis) could account for the neurological signs seen in these infants. A review of reported cases suggests that in situations where there was no evidence of neurological involvement and the catheter was removed promptly, no long-term sequelae occurred.

To avoid PCVL malposition only personnel experienced in both catheter placement and its associated complications should perform catheterization. While some authors recommend documentation of catheter position with a fluoroscopically monitored contrast injection,[8] a lateral radiograph may be all that is necessary to ensure proper positioning of a PCVL.[4,6,7]

Based upon our experience with this case and a review of the literature, we suggest that management of this condition should include: 1. A high index of suspicion; 2. Prompt removal of the catheter; 3. Monitoring for signs of cord compression and involvement of the neurosurgeon in case decompression is necessary; 4. Treatment with antibiotics until sepsis can be ruled out (including coverage for skin flora that may have tracked along the catheter path); 5. Long-term neurodevelopmental follow-up.

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Abstracts:
Seventh Annual Meeting and Scientific Assembly of the Connecticut College of Emergency Physicians

FORWARD: The Seventh Annual Scientific Assembly of the Connecticut College of Emergency Physicans was held on 17 November 1999, at the Water's Edge Inn & Resort, Westbrook. Sixteen abstracts are presented; they are on issues related to emergency medicine and are separated into two categories: oral and poster presentations.

Emergency Department Management of the Ethanol Intoxicated Patient: Current Practice Patterns

BRIAN BAXT, M.D., SHIH-YIN HO, M.D., LINDA DEGUTIS, DR.PH.,
AND GAIL D'ONOFRIO, M.D.
Yale University School of Medicine, Section of Emergency Medicine, Department of Surgery

Objective: To review the current practice patterns of North American academic emergency departments (ED) for diagnosis, treatment, and disposition of ethanol intoxicated patients.

Methods: A survey of all the primary hospital sites of U.S. and Canadian emergency medicine residency programs was conducted. Data collected included: ED demographics, frequency of patients presenting with acute intoxication, state and institutional policies regarding diagnosis, evaluation, mechanical restraints, intravenous and oral hydration, nutritional repletion, discharge, involuntary commitment, and referral.

Results: Analysis includes 70% (92/131) programs. Seventy-four percent (68/92) define intoxication by clinical judgment, 41% (38/92) by blood alcohol content (BAC), and 17% (16/92) by breathalyzer. Ninety-five percent (75/79) use mechanical restrains when the patient is combative. Twenty-one percent (19/92) have an institutional policy or practice of intravenous hydration for the intoxicated patient. Twenty-four percent (22/91) have a policy regarding discharge. Seven percent (6/89) require a specific BAC for discharge.

Conclusion: Variability exists in the diagnosis, management, referral, and discharge of patients with simple ethanol intoxication. Few programs have formal practice patterns. A standard of care should be delineated for this high-risk population.

Preparing for Internship—A Creative Mechanism for Integration of Emergency Medicine in Medical School Curriculums

KAREN MULLOY RESTIFO, M.D. AND LINDA C. DEGUTIS, DR.PH.
Yale University School of Medicine, Section of Emergency Medicine, Department of Surgery

Background: Emergency medicine faculty continue to try to find ways to augment curriculums at medical schools around the country. Often the interaction between emergency medicine (EM) faculty and medical students has been confined to emergency department rotations.

Objective: The objective was to develop a curriculum that would increase interaction of EM faculty and medical students and introduce students to common situations they would encounter during internship.

Methods: Five years ago we instituted an afternoon lecture series for medical students in the spring of their fourth year. A series of eight lectures are given over a four-week block and are advertised through mailings to students. Lecture topics approach clinical problems from a conceptual standpoint and include the differential diagnosis of common emergencies and appropriate management.

Results: The program was extremely well received with attendance ranging from 40 to 60 students (approximately 50% of the senior class) per lecture. Lecture evaluations have been overwhelmingly positive. The series has quickly become viewed as a course despite its unofficial status and has made a reputation for itself within the medical school, now being correlated with the fourth year required rotation during that block.

Conclusion: We offer this idea as an easy mechanism for EM faculty to augment existing curriculums and demonstrate to students and medical school administrations the benefits of continued integration of emergency medicine in undergraduate curriculums.

Cardiovascular Risk Factor Screening By College Research Associates in a Teaching Hospital Emergency Department

JUNAID RAZZAK, M.D., JAMIE ROACH, B.A., MICHAEL CORDONE, B.S.,
MARK MARKARIAN, M.S.P.H., KEITH BRADLEY, M.D., MICHAEL WERDMANN, M.D.,
SUZANNE QUINTNER-POLLARD, R.N., AND STEPHEN KUNKES, M.D.
Yale University School of Medicine and Bridgeport Hospital, Departments of Emergency Medicine

Introduction: Cardiovascular disease (CVD) is the etiology for a high degree of national morbidity and mortality. Early identification and amelioration of risk factors can reduce the morbidity and mortality of CVD. The American Heart Association has produced a screening tool to assess risk for CVD. The purpose of this study was to determine the pattern of risk among emergency department (ED) patients and to explore the potential of the emergency department as a site for screening for CVD.

Methods: This was a prospective, observational study. *Setting:* Bridgeport Hospital, a 425-bed, tertiary care center for CVD, with more than 55,000 ED visits per year serving an urban/suburban catchment area. *Inclusion criteria:* All adult, nonacute patients presenting to the Bridgeport Hospital ED when an research associate was on duty were eligible for the study. *Exclusion criteria:* Patients were excluded if they could not be privately interviewed or could not adequately communicate with the RA. *Protocol:* College research associates were instructed on a scripted screening procedure based on the American Heart Association's (AMA) "What's Your Risk of Heart Attack" tool. This unverified instrument was the only screening tool that does not require a cholesterol level. After insuring the patient's privacy, the research associate conduced the cardiovascular questions as part of a program of ED primary health screening. By the script, patients were advised of their risk for cardiovascular disease and appropriate information on what they could do to decrease this risk. If the patient screened positive for high cardiovascular risk factors, they received a $50 voucher against the usual tuition of $250 for an eight-week cardiovascular risk reduction class, "Project Heart Smart."

Results: One thousand four hundred eighteen patients were enrolled in the study over two 10 week semesters.

Two hundred eighty (19%) were evaluated as having low risk, 1,101 (76%) moderate risk, and 37 (2.6%) high risk. This was markedly different from the AHA estimate of the distribution of the risk for CVD in the population. Of the 37 patients who were evaluated as having high risk, none followed up with the vouchers. Data analysis continues on the specific risk factor distribution. Future work with the AHA will assess the adjustment of this screening tool.

Conclusion: RAs can successfully enroll patients in cardiovascular screening in the ED The AHA's screening tool may not accurately assess the cardiovascular risk in the emergency department population.

Effect of the HIV Epidemic on Incoming Emergency Medicine Residents' Choices of Specialty and Residency Location Five Years Later

KAREN MULLOY RESTIFO, M.D., LINDA C. DEGUTIS, DR.PH, AND REBECCA MASCIA
Yale University School of Medicine, Section of Emergency Medicine, Department of Surgery

Background: Five years ago, we found that perceived prevalence of HIV had a significant effect on where students applied for emergency medicine (EM) residency programs (RP). They were least likely to apply to RPs in New York, California, Illinois, and Florida. Specialties ranked as highest risk of HIV exposure were surgery (57.9%), emergency medicine (23.2%), and ob-gyn (15.8%).

Objective: We repeated the survey to determine whether students continue to base residency application decisions on perceived risk of HIV exposure.

Methods: Questionnaires were mailed to 514 applicants to the Yale EMRP. Two hundred twenty-seven (44.2%) responded. Students listed geographic areas of the country they avoided because of perceived risk of HIV and ranked specialties they considered as high risk. Data were analyzed using descriptive statistical methods.

Results: Two hundred eight (91.6%) respondents were not deterred from applying to EMRPs in specific areas; 16 (7.0%) were deterred from specific specialties. Highest risk specialties were EM (45.7%), surgery (43.8%), and ob-gyn (8.8%).

Conclusion: HIV prevalence appears to play less of a role in geographic EMRP selection than it did five years ago. Specialty selection continues to be unaffected by fear of HIV exposure. However, both EM and surgery are still considered to have the highest risk of occupational exposure to HIV.

Patients Presenting with Dyspnea

ALBERTO PEREZ, M.D., ALAN J. SMALLY, M.D., JANICE O'CONNELL,
JOHN HARTMAN, AND MICHAEL J. DRESCHER, M.D.
University of Connecticut Integrated Residency in Emergency Medicine

Objective: Assess the effectiveness of nurse triage of select patients to respiratory therapist (RT) in decreasing patient waiting time to treatment with bronchodilators.

Methods: Exemption for consent was received from the Institutional Review Board. *Setting:* Urban teaching hospital with a census of approximately 65,000 adult patients annually. A protocol was established by which dyspneic patients meeting criteria were treated with bronchodilators by a RT prior to physician evaluation.

Study design: Prospective before and after study in which convenience samples of patients were evaluated in the two months prior to the intervention (n=224) and in the two months after the intervention (n=117). *Inclusion criteria:* Patients over age 16, presenting with dyspnea, stable vital signs, history of COPD or asthma, or three of the following: increased work of breathing, peak flow 50% of predicted or personal best, severe cough, wheezing, and/or history of mucocilliary clearance problem. *Exclusion criteria:* Unstable vital signs, chest pain, or congestive heart failure. Time from nurse triage to RT evaluation and time to first treatment were recorded by the RT caring for the patient.

Results: Triage to RT evaluation mean time: preprotocol group, 17 minutes and protocol group, 14 minutes. Mean time to first bronchodilator treatment: preprotocol group, 20 minutes and protocol group, 16 minutes.

Conclusion: Instituting a protocol whereby bronchodilator therapy is RT-initiated prior to physician evaluation did not achieve a clinically significant decrease in time from triage to first treatment of stable patients with dyspnea.

Elimination of Abdominal Pain Safely in the Emergency Department

MALCOLM MAHADEVAN, M.D. AND LOUIS GRAFF, M.D.
New Britain General Hospital, Department of Emergency Medicine

Hypothesis: Administration of intravenous analgesia causes greater loss of abdominal signs that are useful in predicting for appendicitis than does placebo.

Methods: A convenience sample of 68 patients greater than 11 years with right lower quadrant pain (RLQ) was randomized to receive either Tramadol (synthetic opiate 1 mg/kg) or placebo. Patient's perceived pain (using a 100 mm linear Visual Analog Scale) and the absence or presence of tenderness in the RLQ or elsewhere, tenderness on light or deep palpation, rebound, cough or percussion tenderness were documented at 0, 30, and 60 minutes. The performance of each abdominal sign was assessed by the ability to predict for appendicitis and was calculated using likelihood ratios (LR). This was then translated into a 10-point weighted scale which was used to measure the extent to which the more useful diagnostic abdominal signs were concealed.

Results: There was a mean reduction of 25% of pain with an 18% loss of abdominal signs in the drug group *vs* 13% and 23% loss in placebo group. The LR score in the drug group was lower than placebo: 31/140 *vs* 38/110 (P=0.042).

Conclusion: Patients that experienced some analgesia whether through drug or placebo effect also lost abdominal signs on repeat examination. Those that were given the synthetic opiate at the dose specified lost less of the more discriminative abdominal signs than those given placebo.

Observation Improves Computerized Tomography Scan Utilization in Abdominal Pain Evaluation for Appendicitis

LOUIS GRAFF, M.D., MALCOLM MAHADEVAN, M.D., AND JOHN RUSSELL, M.D.
New Britain General Hospital, Department of Emergency Medicine

Hypothesis: Observation improves computerized tomography (CT) scan utilization without worsening its diagnostic performance in identifying acute appendicitis in abdominal pain patients .

Methods: This was a threshold for testing analysis of the value of observation combining two retrospective observational cohort studies. One was at 11 acute care hospitals examining consecutive patients who had an appendectomy for possible acute appendicitis (n=1,045). Use imaging was identified. The second was at one acute care hospital examining during one year all consecutive acute appendicitis patients (n=105, 44 underwent observation before surgery), all consecutive emergency department (ED) observation unit patients (n=252), and a sample of consecutive ED abdominal pain patients without acute disease (n=100) abstracting Alvarado appendicitis score.

Results: In the first study, 916 patients had appendicitis and 110 patients had false positive surgery. During that same time period at those hospitals' EDs there were an estimated 20,044 abdominal pain patients evaluated who did not have appendicitis. CT scans were performed on 131 of 916 (14%) appendicitis patients with 89% sensitivity. In the second study there were two abdominal pain patients evaluated in the ED. At a threshold five Alvarado appendicitis score (15.4% pretest probability of disease) to test patients with CT scan, the use of observation improved sensitivity (76.3% to 80.6%), improved specificity (89.5% to 90%), and decreased scan usage from 3,265 of 20,960 patients (15.6%) to 2,753 of 20,960 patients (13.1%), P<.001.

Conclusion: Observation improves CT scan utilization in abdominal pain patient evaluation.

Management of Gastrostomy Tube Extubation

JONATHAN MAISEL, M.D., MICHAEL WERDMANN, M.D., AND DAVID LIN, M.D.
Yale University School of Medicine, Department of Surgery,
Bridgeport Hospital, Department of Emergency Medicine

Gastrostomy tube dislodgment is a common emergency department presenting complaint. In our 56,000 per annum census emergency department, we see approximately 100 cases per year. We present a case of an 80-year-old male referred from a nursing home for replacement of an accidentally extubated percutaneous endoscopic gastrostomy (PEG) tube. A 22 French Foley catheter was placed through the PEG stoma and the patient was transferred back to the nursing home. The next day, the patient returned for evaluation of shortness of breath. He was noted to have subcutaneous emphysema over the chest and abdomen. His abdomen was distended and tympanitic. Abdominal plain films revealed free intraperitoneal air. The patient's family decided on supportive measures only and the patient expired shortly thereafter. Chart review revealed that the patient's PEG tube had been placed less than 24 hours prior to his initial emergency department visit.

PEG tubes placed under local anesthesia in the endoscopy suite have largely supplanted surgically placed feeding tubes due to their lower complication rate and expense. Traditional gastrostomy methods suture the stomach to the abdominal wall to prevent leakage or retraction. The PEG method allows placement of a feeding tube through an endoscopically guided simultaneous puncture of the anterior abdominal wall and stomach. Because these two surfaces are only approximated and not surgically fixed, tube dislodgment prior to the creation of a fistulous tract (usually in about one week) could mean separation of the stomach from the abdominal wall and peritonitis. In this time period, accidental extubation or tube blockage should be managed only by endoscopic or surgical replacement. After one week, correct replacement with a gastrostomy tube or Foley catheter of equal size can be confirmed by aspiration of stomach contents or contrast radiography.

The Effect of Recent Smoking on Exhaled Breath Carbon Monoxide (CO) Determinations

PETER T. PORRELLO, M.D. AND CHARLES McKAY, JR., M.D.
Hartford Hospital, University of Connecticut Integrated Residency in Emergency Medicine

It is known that smokers maintain a higher carboxyhemoglobin (COHgb) than do nonsmokers. While the half-life of COHgb at 21% FIO_2 is stated to be in the range of four to six hours and COHgb of 5%–10% are "usual" for smokers, the rate of equilibration of breath carbon monoxide (CO) following smoking is not known. The CO breath monitor is a simple, noninvasive device for determining the body burden of CO. Determination of its reliability in the face of recent (within minutes) smoking would be useful. Seven smokers, with varying periods of abstinence (measured in hours) had breath CO determinations before, immediately after, and sequentially every five to 10 minutes to determine the effect of a single cigarette. By history, subjects smoked an average of 15.8 cigarettes per day. The study group had a mean baseline CO level of 4.9%. Following a single cigarette, there was a bell-shaped rise of breath determined COHgb to 6.1% and fall to baseline over 14.7 minutes. This study demonstrates a definite rise in the exhaled breath determination of CO in subjects after smoking. The rate of fall to baseline is not consistent with half-life characteristics of COHgb and suggests a component of retained pulmonary airway CO. However, this elevation in breath CO would not confound significantly elevated CO levels (>10%) or bias interpretation if cigarette smoking has not occurred within the last 15 minutes. This study did not address potential effects of severe pulmonary or circulatory disease. Further studies comparing venous COHgb with exhaled breath CO in the setting of tobacco smoking could clarify the role of retained airway CO.

A Refinement in the Interpretation of the Elevated Osmol Gap: Intravenous Medication Additives

DEMETRES VELENDZAS, M.D., AND CHARLES McKAY, M.D.
University of Connecticut Medical Center

Background: Medical toxicologists and emergency physicians are often confronted with unexplained osmol gaps. These laboratory calculations can be effected by many things. Among these are the osmol contributions from IV medication additives, including propylene glycol (PG).

Methods: We reviewed many common intravenous infusions utilized in our intensive care unit to determine the presence of osmotically active additives and evaluated the contribution of PG in one patient on high-dose infusions of lorazopam and nitroglycerin. Serum PG levels were measured by gas chromatography with flame ionization detection. Total osmol gaps were calculated and compared with the calculated PG osmol contribution.

Results: Several commonly used infusions contain significant amounts of PG including lorazopam (PG), diazopam (PG), etomidate (PG), pentobarbital (PG), phenytoin sodium (PG), and nitroglycerin (PG). The following table summarizes the osmol contribution in the patient described:

Sample	*Total osmol gap*	*serum [PG] mg/dL*	*PG osmol contribution*
1	24	97.7	13
2	32	168.7	22
3	53	406.4	53
4	55	348.8	46

Conclusion: Unexplained osmol gaps in a patient on multiple intravenous infusions may well be caused by the accumulation of propylene glycol or other osmotically active additives. Confirmation of their osmol contribution is most accurately determined by quantitative gas chromatography. When laboratory confirmation is not available, their osmol contribution can be estimated from the infusion rate and the calculated elimination half life.

Measurement of Blood Alcohol Concentration in Trauma Patients Using a Saliva Strip Method: Preliminary Results

LINDA C. DEGUTIS, DR.PH., GAIL D'ONOFRIO, M.D., REBECCA MASCIA, B.S.,
AND REUVEN RABINOVICI, M.D.
Yale University School of Medicine, Section of Emergency Medicine, Department of Surgery

Background: Blood alcohol concentration (BAC) is often measured in trauma patients. Ethanol reagent strips have been used for the measurement of BAC in various settings, and have been found to have a high specificity and sensitivity in detecting alcohol. The QED A350 saliva reagent strip has been approved for use in medical settings for the quantitative determination of alcohol. The QED has not been used widely in emergency departments.

Objective: To determine whether alcohol saliva strip tests provide an accurate measure of (BAC) in trauma patients.

Methods: Patients triaged to the trauma room who are routinely tested for BAC using serum also receive an alcohol saliva strip test (AST). Readings from the AST and serum BAC were recorded. Presence of blood or vomitus in the oral cavity was noted.

Results: Twenty-two patients were tested; 16 (72.7%) tested negative for BAC on both tests and six (27.3%) tested positive. The range of positive BAC on the AST was 120–350mg%, mean 243.3 ± 87.33. For serum, the range was 91–356mg%, mean 256.0 ± 98.95. The correlation between serum and AST for positive tests was .960 (P=.01).Results were not affected by the presence of blood or vomitus in the oral cavity.

Conclusion: The alcohol saliva strip method of measuring BAC in trauma patients is a promising tool for the emergency department in that it is closely correlated with serum BAC, does not require patient cooperation, and is rapidly administered and read.

Outcomes with Observation Units for Chest Pain Evaluation in a Multi Hospital Network

LOUIS GRAFF, M.D., MARK PRETE, M.D., MIKE WERDMANN, M.D., ED MONICO, M.D.,
KEVIN SMOTHERS, M.D., CHARLES KRIVENKO, M.D., RACHEL MAAG, M.S.,
ANTHONY JOSEPH, M.D., AND LENNE KLOPFER, R.R.A.,
for the VHA NE Clinical Benchmarking Work Group
New Britain General Hospital, Charlotte Hungerford Hospital, Bridgeport Hospital,
Yale New Haven Hospital, Greenwich Hospital, Riverside Methodist Hospitals

Hypothesis: Implementation of emergency department (ED) observation units improves the quality of patient care and the cost effectiveness of acute chest pain evaluation.

Methods: This was a prospective nonrandomized quality improvement initiative with implementation of ED observation units with "rule out MI evaluations" capabilities (Chest Pain Units) at five hospitals with historical and case controls. Patient disposition was identified for all ED patients with the chief complaint of chest pain for one month before (September 1993 [n=902]) and one month during the initiative (June 1997 [n=1,321]). Charges for services were quantified for a consecutive series of chest pain patients at three of the hospitals with negative evaluations for coronary artery disease during 1997 (observation unit [n=1,494], hospital [n=233]). Outcome Measures were admission rate, observation rate, "rule out MI evaluation" rate, and service charges.

Results: By June 1997 five hospitals had implemented ED observation units and compared to historical and case controls the observation rate increased (16.3% *vs* 0% [$P<.01$) *vs* 1.6% <.01]). The "rule out MI evaluation" rate (61.4% *vs* 40.4% [$P<.01$] *vs* 44.6% [$P<.01$]) was consistent with improved quality of patient care. The hospital admission rate did not increase (47.5% *vs* 40.4% [$P<.05$] *vs* 44.6% [P=NS]). Service charges were lower for patients admitted to the ED observation unit than to the hospital ($2,214.80 ± $80.40 *vs* $5,464.30 ± $393.60).

Conclusion: Implementation of emergency department observation units improves the quality of patient care and the cost effectiveness of the evaluation of patients with acute chest pain.

State-to-State Variation in Statutes Regarding the Reporting of Medically Impaired Drivers

MIRIAM T. ASCHKENASY, M.D., MICHAEL J. DRESCHER, JR., M.D.,
AND RICHARD RATZAN, M.D.
Hartford Hospital, University of Connecticut School of Medicine, Division of Emergency Medicine

Objective: In general, standards of medical practice apply nationally. Physician obligation to report medically impaired drivers is such a case. We undertook a study to determine the extent to which statutory physician obligation to report medically impaired drivers varies from state to state.

Methods: A literature search was performed to identify previously published articles on the subject in the medical literature. The division of legal services for state DMVs as well as a legal literature search were consulted. Pertinent statutes were identified. State statutes were divided into three categories: mandatory reporting, permissive reporting, and no statute relating to reporting. The permissive reporting category included statutes with "may," or "discretionary" in their wording or statements that a physician was protected from liability or prosecution if he/she should choose to report.

Results: Of the 50 states and the District of Columbia, six (12%) had mandatory reporting, 25 (49%) had permissive reporting laws, and 20 (39%) had no laws pertaining to a physician's responsibility to report medically impaired drivers.

Conclusion: No national standard exists pertaining to medical reporting of impaired drivers. The ethical implications of such an action involve a conflict between patient-doctor confidentiality and physician responsibility for public health. Statutes dealing with physician reporting vary from state to state. Emergency physicians must take into account both global ethical principles and the local legal environment when dealing with the potentially impaired driver.

Emergency Department Staff Evaluation of Emergency Medical Services Provider Performance

ROBERT F. CARROLL, M.D, AND MICHAEL J. DRESCHER, M.D.
University of Connecticut School of Medicine

Study objective: We recently reported problematic areas of the emergency department (ED) and emergency medical services (EMS) interface from the perspective of the EMS provider. We undertook this study to identify areas of satisfaction or dissatisfaction with key aspects of EMS performance from the ED staffs' perspective.

Methods: Over a two-month period, we conducted a survey of 85 ED staff, consisting of RNs, emergency medicine (EM) residents, and EM attending physicians. To date a total of 63 responses were received (21 RNs, 21 residents, and 21 attendings). The study was multicentered, involving three teaching hospitals affiliated with an EM residency program. All three hospitals share the same EMS system. The survey addressed two major areas: 1) radio and communications, and 2) ED/EMS interactions with regard to patient care. The respondents quantified their satisfaction in these areas using a five point Likert scale to evaluate the completion of duties. The scale used was: 1=almost never, 2=not usually, 3=sometimes, 4=usually, and 5=almost always. We interpreted scores ≥4 as good and scores <4 as inferior.

Results: Our survey evaluated 15 aspects of the EMS provider's role. We identified two areas for which EMS satisfaction was high, based on scores consistently above 4. These aspects are: 1) accurate and pertinent verbal report presented by EMS [mean satisfaction (MS) 4.15 confidence interval (CI) 4.01–4.30 n=63] and 2) verbal reports by EMS given in a professional manner (MS 4.22 CI 4.07–4.38 n=63). We have identified five areas that scored consistently below 4. These areas of dissatisfaction with EMS performance are: 1) organization and efficiency of radio reports (MS 3.57 CI 3.36–3.78 n=63), 2) appropriateness of EMS request for medication administration (MS 2.87 CI 2.43–3.32 n=63), 3) patients arrive via EMS with the proper medical histories and medication lists (MS 3.65 CI 3.43–3.87 n=63), 4) EMS remains available in the ED for questions (MS 3.48 CI 3.27–3.68 n=63), and 5) EMS ability to recognize and identify major disease processes (MS 3.81 CI 3.64–3.98 n=63).

Conclusion: There are several areas of the EMS provider's responsibilities which show room for improvement from the perspective of the ED staff. We believe that many of the problems we identified can be corrected by further educating the EMS providers based on the evaluations of the ED personnel. Further research is needed to determine which interventions will be most effective to this end. This study is limited to our local EMS system, and whether or not the data can be generalized to other settings needs to be evaluated.

College Research Associates as Screeners for Firearms Injury Risk Assessment in an Urban, Community, Teaching Hospital Emergency Department

MICHAEL CORDONE, M.S., MARK MARKARIAN, M.S.P.H., KEITH BRADLEY, M.D., HEATHER SIBLEY, M.S., JAMIE ROACH, B.A., AND MICHAEL WERDMANN, M.D.
Yale University School of Medicine and Bridgeport Hospital, Departments of Emergency Medicine

Objective: To determine if college research associates (RAs) could successfully screen for firearms risk assessment in adult patients presenting to an urban, community, teaching hospital emergency department (ED).

Methods: Design: Prospective, observational. *Setting:* Urban, community, teaching hospital. *Participants:* Volunteer, college RAs received training on screening using a formatted script that took about 90 seconds to administer. *Interventions:* The screening instrument was based on the AMA Physician Firearm Safety Guide "Risk Factors for Firearm Injury and Death." When not enrolling patients in other studies, RAs screened a convenience sample of nonacute, adult ED patients. If the patients said that they or someone they knew had a gun, they were asked if they would allow a follow-up call at one month to see if there had been a change in their risk factors. If the patient was a city resident and did not have a trigger lock, he/she was eligible to receive a free one in the ED. All patients received information on their firearm risk and safety factors.

Results: Six hundred thirty-one patients were approached for ED screening by RAs over 160 shifts during 13 weeks. Six hundred nine (97%) were screened for firearms injury risk assessment; 111 (18%) had a gun. An additional 98 patients knew someone who owned a gun for a total of 208 patients (34%) for whom screening could potentially influence gun ownership/risk behavior. Of those who said that they owned a gun, 30 (27%) said they did not have a trigger lock, 23 (21%) said the gun was not secured, and 18 (16%) said that the gun was kept loaded. Seven patients (6%) were eligible for free trigger locks and three accepted them. Nine eligible staff also received trigger locks. Twenty-one (19%) of the gun owners would allow contact after ED discharge. Postemergency department discharge contact could be made with seven of the gun owners. Three refused to answer further questions. Of the four who answered questions, two said they no longer had the gun, two reported that they had placed trigger locks on their guns, one reported locking a previously unlocked gun, and one reported that a gun that had been kept loaded was now stored unloaded.

Conclusion: RAs can successfully screen for primary health-care issues in the ED. This screening identifies important firearm risks among patients attending the ED. The outcome of this screening on the risk factors of those with a gun could not be determined.

Flank and Back Wounds
CT: An Insensitive Test for Colonic Injury

SONI CLUBB, M.D.
Yale-New Haven School of Medicine

Objective: To determine the utility of contrast enhanced computerized tomography (CT) in the initial evaluation of the hemodynamically stable patient with penetrating injury to the back or flank, without peritoneal signs or evisceration, in detecting occult colon injury.

Methods: We compiled patient data from the nine published case series describing the use of contrast enhanced CT in the evaluation of penetrating trauma to the back and flank. We identified 729 evaluable patients without immediate clinical indication for laparotomy who underwent contrast enhanced CT. Five hundred twenty-four of 729 patients received rectal contrast CT.

Results: Five of 729 (.68%) and 4/524 (.76%) patients required colon repair. In all patients, contrast enhanced CT was 40% sensitive and 99% specific for colon injury. Positive predictive value was 92%, negative predictive value was 99%. Rectal contrast CT resulted in 25% sensitivity, 98% specificity, 14% positive predictive value, and 99% negative predictive value.

Conclusion: Colon injury is extremely rare in back and flank penetrating trauma without clinical indication for acute laparotomy. CT is a poor screening test for the diagnosis of colon injury in this population. The use of rectal contrast is not justified.

Contrast enhanced CT			*Rectal contrast CT*		
	CT+	*CT-*		*CT+*	*CT-*
Colon injury	2	3	Colon injury	1	3
No colon injury	7	717	No colon injury	6	514

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Neil J. Grey, M.D.
Medical Director

Michele R. Norbeck
Director

MORBIDITY AND MORTALITY WEEKLY REPORT

Reasons Reported by Medicare Beneficiaries for Not Receiving Influenza and Pneumococcal Vaccinations—United States, 1996

IN the United States, influenza causes an average of 20,000 deaths per year; 90% of these death are among persons aged ≥65 years.[1] Pneumococcal disease accounts for more deaths than any other vaccine-preventable bacterial disease.[2] Annual influenza vaccination and one dose of pneumococcal polysaccharide vaccine can prevent complications from these infections among persons aged ≥65 years.[1,3] In 1997, 65% of adults aged ≥65 years reported receiving influenza vaccination during the previous 12 months and 45% reported ever receiving pneumococcal vaccination.[4] This report presents an analysis of responses to the 1996 Medicare Current Beneficiary Survey (MCBS) to describe self-reported vaccination status and reasons for not receiving influenza and pneumococcal vaccinations reported by Medicare beneficiaries aged ≥65 years; the findings indicate that most persons who had never received pneumococcal vaccination did not think they needed it, and those who had not received influenza vaccine did not know of the need for influenza vaccination and had misconceptions about its safety and efficacy.

MCBS is an ongoing, nationally representative, multistage, longitudinal survey of approximately 16,000 Medicare beneficiaries.[5] Participants are interviewed in person every four months even if they have changed residences or live in long-term care facilities. In the autumn of each year, respondents are asked, "Did you have a flu shot for last winter?" and "Have you ever had a shot for pneumonia?" During 1996, beneficiaries were asked for the first time why they had not been vaccinated for each vaccination they reportedly had not received. Beneficiaries were not provided with a response list. Interviewers assigned each reported reason to one of 23 categories that were created to accommodate all responses. Proxy respondents were used for persons who were incapacitated. Responses from 14,590 Medicare beneficiaries aged ≥65 years were weighted to represent the Medicare population in 1996. SUDAAN software was used to calculate prevalence estimates, 95% confidence intervals (CIs), and adjusted odds ratios (ORB) from multivariate logistic regression analyses. Multivariate logistic regression analyses were used to assess the association of the most commonly reported reasons for nonvaccination with race/ethnicity, controlling for age, income, education, region, vaccination status, health status, degree of debility, and presence of vaccine-indicated medical conditions.

Overall, 65.2% (95% CI=64.1%–66.4%) of beneficiaries reported receiving influenza vaccination for the winter of 1995–1996 and 45.1% (95% CI=43.8%–46.4%) reported ever having received pneumococcal vaccination; 39.3% (95% CI=38.1%–40.5%) of beneficiaries reported receiving both vaccinations and 29.1% (95% CI=28.5%–29.7%) reported receiving neither vaccination; 25.9% (95% CI=25.3%–26.5%) reported receiving only the influenza vaccination and 5.7% (95% CI=5.5%–6.0%) reported receiving only pneumococcal vaccination; of non-Hispanic whites, 67.9% (95% CI=66.7%–69.0%) received influenza vaccinations and 47.6% (95% CI=46.3%–49.0%) received pneumococcal vaccinations. Of non-Hispanic blacks, 45.8% (95% CI=42.6%–49.0%) received influenza vaccinations and 25.2% (95% CI=22.5%–27.8%) received pneumococcal vaccinations. Of Hispanics, 52.9% (95% CI=51.8%–53.9%) and 35.9% (95% CI=32.0%–39.8%) received influenza and pneumococcal vaccinations, respectively. Among other racial/ethnic groups (Asians/Pacific Islanders, American Indians/Alaska Natives, and others*) 58.9% (95% CI=52.5%–65.2%) received influenza and 35.6% (95% CI=29.3%–41.9%) received pneumococcal vaccinations.

Not knowing vaccination was needed was the most commonly reported reason for not receiving influenza (19%) or pneumococcal (57%) vaccination (Table 1). Cost of vaccination and difficulty reaching vaccinators were cited by <2% of beneficiaries. For both vaccines,

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Reprinted from the *Morbidity and Mortality Weekly Report,* 8 October 1999; vol. 48, no. 39, Centers for Disease Control (CDC), national Institute for Health (NIH).

*When presented separately, numbers for other racial/ethnic groups were too small for meaningful analysis.

Table 1.—Percentage of Medicare beneficiaries* in the Medicare Current Beneficiary Survey aged ≥65 years who reported reasons† for not receiving influenza vaccination during winter 1995–1996 and for not ever receiving pneumococcal vaccination—United States, 1996

Category	**%**	**(95% CI[§])**
Reasons for not receiving influenza vaccination¶ (n=4,503)		
"I did not know the flu shot was needed."	19.4	(17.2%–21.6%)
"Did not think of/missed it."	14.6	(13.1%–16.1%)
"Thought the flu shot could cause the flu."	13.9	(12.3%–15.5%)
"Thought the flu shot could have side effects."	13.7[††]	(12.3%–15.2%)
"Didn't think it would prevent the flu."	11.2	(9.8%–12.5%)
"Thought I was not at risk of catching the flu."	6.8	(5.8%–7.7%)
"Don't like shots or needles."	5.9	(4.9%–6.8%)
"Doctor recommenced against the flu shot."	5.7	(4.7%–6.7%)
"Doctor did not recommend the flu shot."	5.6	(4.5%–6.6%)
"Unable to get to the location."	2.3	(1.8%–2.8%)
"Had the flu shot before, did not need it again."	0.8	(0.5%–1.1%)
"Cost of the shot not worth the money."	0.2	(0.1%–0.4%)
Reasons for not receiving pneumococcal vaccination** (n=6,926)		
"I did not know the pneumonia shot was needed."	57.4[††]	(54.4%–60.5%)
"Doctor did not recommend the pneumonia shot."	13.4[††]	(11.6%–15.2%)
"Did not think of it/missed it."	11.3	(9.3%–13.2%)
"Did not think it would prevent pneumonia."	4.3	(3.6%–5.1%)
"Thought I was not at risk of catching pneumonia."	4.3	(3.6%–5.0%)
"Don't like shots or needles."	2.6	(2.1%–3.2%)
"Thought the pneumonia shot could have side effects."	2.4	(1.9%–2.9%)
"Thought the pneumonia shot could cause pneumonia."	2.3	(1.9%–2.8%)
"Doctor recommended against the pneumonia shot."	1.0	(0.7%–1.3%)
"Unable to get to the location."	0.6	(0.4%–0.8%)
"Cost of the shot not worth the money."	0.3	(0.1%–0.5%)

[*] n=14,590, weighted to reflect the 1996 Medicare beneficiary population.

[†] At least one reason for not receiving influenza vaccination was reported by 91% of those who reported not receiving influenza vaccination; at least one reason for not receiving pneumococcal vaccination was reported by 87% of those who reported not receiving pneumococcal vaccination .

[§] Confidence interval.

[¶] Multiple responses were possible for not receiving the influenza vaccination and accounted for 9% of the total responses.

[**] Multiple responses were possible for not receiving the pneumococcal vaccination and accounted for 17% of the total responses.

[††] Logistic regression analysis indicated significant differences by racial/ethnic group.

10%–15% of unvaccinated beneficiaries reported not thinking of, or missing, vaccination. Approximately 40% of beneficiaries who reported not receiving recent influenza vaccination cited concerns about the vaccine, including thinking it could cause influenza; could have side effects, or would not prevent influenza. Of beneficiaries reporting not having received pneumococcal vaccination, 13% cited lack of a doctor's recommendation as a reason.

Logistic regression analysis indicated racial/ethnic differences in three of the eight reasons cited by ≥10% of the nonvaccinated beneficiaries (Table 1). Hispanics and persons of other racial/ethnic groups were more likely than non-Hispanic whites to cite not being aware of the need for pneumococcal vaccination as a reason for nonvaccination (61% *vs* 55% [adjusted OR=1.8, 95% CI=1.3–2.4] and 66% *vs* 55% [adjusted OR=2.2, 95% CI=1.3–3.7]), respectively. Hispanics also were less likely than non-Hispanic whites to cite lack of a doctor's recommendation as a reason for not receiving pneumococcal vaccination (8% *vs* 13% [adjusted OR=0.5, 95% CI=0.20.9]). Non-Hispanic blacks were less likely than non-Hispanic whites to report thinking influenza vaccination could cause side effects as a reason for nonvaccination (11% *vs* 16% [adjusted OR=0.7, 95% CI=0.5–0.9]).

Reported by: D. Drociuk, School of Public Health, University of South Carolina, Columbia, South Carolina. Office of Strategic Planning, Health Care Financing Administration, Baltimore, Maryland. Adult Vaccine-Preventable Diseases Branch, *Epidemiology and Surveillance Division, National Immunization Program, CDC.*

Editorial Note: This study is the first nationally representative survey to assess Medicare beneficiaries' reasons for not receiving vaccinations. In 1996, the influenza vaccination level reported by Medicare beneficiaries aged ≥65 years exceeded 60%, the national objective for 2000 (objective 20.2). Although influenza and pneumococcal vaccinations are available at no charge to Medicare beneficiaries, approximately half had not received pneumococcal vaccination, and nearly one third reported receiving neither vaccination. Self-reported influenza and pneumococcal vaccination levels from the 1996 MCBS were consistent with estimates reported by the 1997 Behavioral Risk Factor Surveillance System and higher than levels reported by the 1995 National Health Interview Survey.[4] This report also documents lower vaccination levels among racial/ethnic minority groups than among non-Hispanic whites; however, observed differences in reasons for nonvaccination cited by non-Hispanic whites compared with persons in other racial/ethnic groups were relatively small and may be unimportant when planning interventions to improve vaccination levels for specific racial/ethnic groups.

The reasons reported by this national sample of Medicare beneficiaries for not receiving influenza or pneumococcal vaccination were consistent with previously reported data that indicated a lack of knowledge, misconceptions about vaccines and vaccine-associated illnesses, and lack of recommendations from physicians.[6–8] In 1996, lack of knowledge and lack of physician recommendations were the predominant reasons cited by Medicare beneficiaries for not receiving pneumococcal vaccination; 57% of beneficiaries who reported not receiving pneumococcal vaccination, ie, 31% of the total 1996 Medicare population aged ≥65 years, were unaware that this vaccination was recommended.

Because physicians provide the greatest proportion of vaccinations to Medicare beneficiaries (Health Care Financing Administration, unpublished data, 1999), the 26% of beneficiaries who received influenza but not pneumococcal vaccination indicates that physicians miss opportunities to vaccinate older persons during office visits. Because physicians' recommendations for influenza and pneumococcal vaccination are accepted by patients even when they have negative perceptions about the vaccinations,[7] health-care providers should include patient education with vaccination recommendations during scheduled appointments.

The findings in this study are subject to at least three limitations. First, reasons reported for nonvaccination may differ depending on how questions were asked (ie, if respondents had been provided with a response list, the frequency of responses in different categories, such as lack of physician recommendation for vaccination, may have changed). Second, self-reports of influenza vaccination may be more reliable than self-reports of pneumococcal vaccination.[9] Third, survey responses were not validated by medical record review.

For 2010, the proposed national objective for influenza and pneumococcal vaccination levels for high-risk persons is 90%, a 30% increase from the 2000 level <http://web.health.gov/healthypeople/2010Draft/object.htm>.[†] To achieve this level, public, private, and community health-care providers must increase awareness of the need for vaccination and must reduce missed opportunities among older persons. The Initiative to Eliminate Racial and Ethnic Disparities in Health by 2010, which includes adult vaccination activities <http://raceandhealth.hhs.gov>, has been implemented by CDC and other federal agencies. Effective mechanisms to improve vaccination of adults should be implemented, including physician and patient education coupled with provider and patient reminders and recalls, standing orders for vaccination, and feedback to providers on vaccination levels.[10] Local public health planners should seek guidance from national survey data such as those from the MCBS and design surveys to identify interventions that address the reasons why older adults in their communities are not vaccinated.

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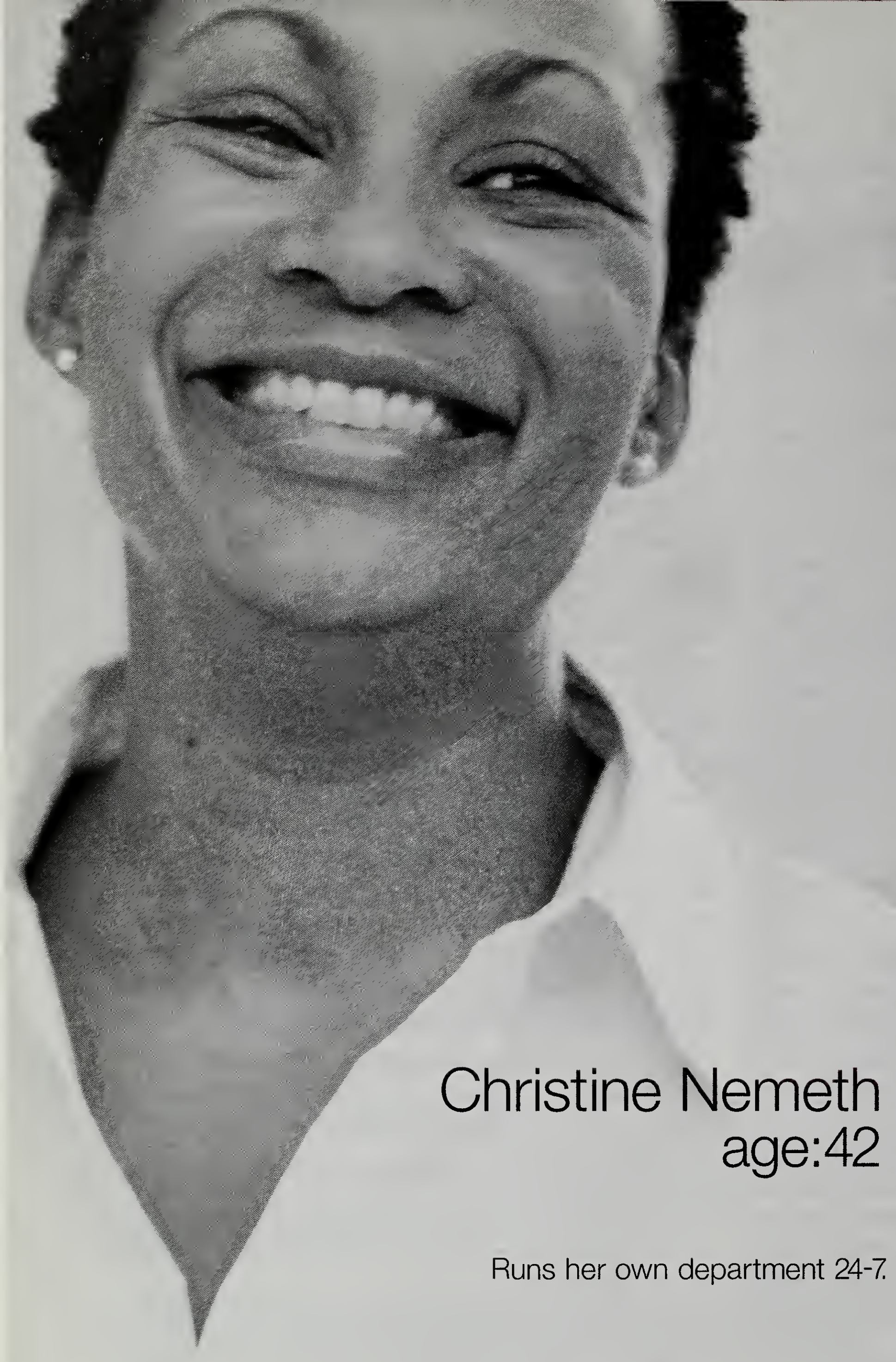

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SLS 833

Drugs for Non-HIV Viral Infections

THE drugs of choice for non-HIV viral infections with their dosages and cost are listed in the table that begins on the next page. The treatment of HIV infection will be discussed in an upcoming issue.

ACYCLOVIR (*Zovirax,* and others)—Intravenous (IV) acyclovir is the drug of choice for treatment of serious infections caused by herpes simplex virus (HSV) or varicella-zoster virus (VZV). Oral acyclovir is effective in treating primary HSV infections; it is less effective in treating recurrences. Long-term chronic suppression with oral acyclovir decreases the frequency of symptomatic recurrences of genital herpes and asymptomatic HSV shedding. Oral acyclovir, if begun within 24 hours after the onset of rash, decreases the severity of varicella and can also be used to treat localized, ophthalmic, or disseminated zoster.

Adverse Effects—By any route of administration, acyclovir is generally well tolerated. Gastrointestinal disturbances, headache, and rash can occur. Given IV, the drug may cause phlebitis and inflammation at sites of infusion or extravasation. IV acyclovir may also cause reversible renal dysfunction because of crystalline nephropathy; rapid infusion, dehydration, renal insufficiency, and high dosage increase the risk. IV and rarely oral acyclovir have been associated with encephalopathy, including tremors, hallucinations, seizures, and coma.

High doses of acyclovir cause testicular atrophy in rats, and high concentrations cause chromosomal damage *in vitro,* but no adverse effects on sperm production or cytogenetic alterations in peripheral blood lymphocytes have been detected in patients who have taken the drug orally for more than 10 years to suppress recurrent genital herpes. The manufacturer recommends stopping the drug during pregnancy, but a pregnancy registry found no unusual or excess incidence of birth defects in the offspring of more than 600 women who took acyclovir during the first trimester.

Resistance—Most acyclovir-resistant HSV isolates, which may also be resistant to penciclovir, have been recovered from immunocompromised patients treated with the drug. Resistant HSV isolates in HIV-positive patients have been associated with progressive mucosal disease and, rarely, visceral involvement. Acyclovir-resistant VZV strains in HIV-positive patients have been associated with chronic cutaneous lesions and, rarely, invasive disease. Infections with acyclovir- and penciclovir-resistant HSV or VZV may respond to foscarnet (Breton G, et al: *Clin Infect Dis* 1998; 27:1525).

AMANTADINE *(Symmetrel,* and others) and RIMANTADINE *(Flumadine)*—When started orally before exposure to influenza A virus, either amantadine or rimantadine is 70% to 90% effective in preventing influenza. Treatment begun within 48 hours after the onset of illness decreases the duration of fever and symptoms. Whether these drugs decrease the incidence of influenza-related complications or are effective in treating severe influenza pneumonia is unknown. Prophylaxis with amantadine or rimantadine has been used to control institutional outbreaks of influenza and to protect high-risk patients immunized after an influenza epidemic has begun. They can also be used as prophylaxis for immunodeficient patients, who may respond poorly to influenza vaccine, and in patients for whom influenza vaccine is contraindicated. Neither amantadine nor rimantadine is effective against influenza B virus.

Adverse Effects—Amantadine may cause anorexia, nausea, peripheral edema and, particularly in the elderly, minor central-nervous-system (CNS) effects such as nervousness, anxiety, insomnia, difficulty concentrating, and light-headedness. These effects usually diminish after the first week of use and rapidly disappear after the drug is stopped. Serious CNS effects (confusion, hallucinations, seizures) have occurred, especially with old age, renal insufficiency, seizure disorders, concomitant anticholinergic drug therapy, and underlying psychiatric illness. Amantadine is excreted mainly in urine and dosage must be reduced for creatinine clearance below 50 ml/min.

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DRUGS FOR TREATMENT OF VIRAL INFECTIONS

Viral infection	Drug of choice	Adult Dosage	Cost*
Cytomegalovirus (CMV)			
Retinitis, colitis, esophagitis[1]	Ganciclovir—Cytovene	5 mg/kg IV q12h x 14-21d[2]	$713.40
		followed by 5 mg/kg IV daily	749.07[3]
		or 6 mg/kg IV 5x/wk[2]	606.39[3]
		or 1 gram PO tid[4]	1,439.12[3]
	Vitrasert implant[5]	4.5 mg intraocularly q5-8 months	5,000.00
	or Foscarnet—*Foscavir*	60 mg/kg IV q8h or 90 mg/kg IV q12h x 14-21d[6] followed by	2,188.88
		90 to 120 mg/kg IV daily[6,7]	2,334.80[3]
	or Cidofovir—*Vistide*	5 mg/kg IV once/wk x 2[8] then	1,524.00
		5 mg/kg IV q2 wks[8]	1,524.00[3]
	or Fomivirsen[5]—*Vitravene*	330 μg intravitreally q2 wks x 2	2,000.00
		then 1x/mo	1,000.00[3]
Hepatitis B Virus (HBV)			
Chronic hepatitis[9]	Lamivudine—*Epivir HBV*	100 mg PO 1x/d x 1-3 yrs[9]	1,635.54
	Interferon alfa-2b—*Intron A*	5 million units/d or 10 million units 3x/wk	5,700.48
Hepatitis C Virus (HCV)			
Chronic hepatitis	Interferon alfa-2b plus ribavirin *(Rebetron)*	3 million units 3x/wk SC plus ribavirin 1,000 to 1,200 mg PO daily x 12 mos[11]	16,941.34
	Interferon alfa-2b—*Intron A*	3 million units SC or IM 3x/wk x 12-24 mos[12]	5,558.28
	Interferon alfa-2a—*Roferon-A*	3 million units SC or IM 3x/wk x 12-24 mos[12]	5,455.32
	Interferon alfacon-1—*Infergen*	9 μg 3x/wk x 6 mos[13]	2,886.00
Herpes Simplex Virus (HSV)			
Orolabial herpes in immunocompetent *recurrence*	Penciclovir—*Denavir*	1% cream applied q2h while awake x 4d	22.90[14]
Genital herpes			
first episode	Acyclovir—generic price	400 mg PO tid or 200 mg PO 5x/d x 7-10d[15]	12.04
	Zovirax		45.72
	or Famciclovir[16]—*Famvir*	250 mg PO tid x 5-10d	52.55
	or Valacyclovir—*Valtrex*	1 gram PO bid x 7-10d	61.06
recurrence	Acyclovir—generic price	400 mg PO tid x 5d	9.40
	Zovirax		38.08
	or Famciclovir - *Famvir*	125 mg PO bid x 5d[17]	30.75
	or Valacyclovir- Valtrex	500 mg PO bid x 5d	33.11

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*Cost to the pharmacist for the lowest recommended dosage for a 70-kg patient, according to wholesale price (AWP or HCFA) listings in *Drug Topics Red* Book 1999 and November *Update* and *First DataBank PriceAlert,* November 15, 1999. For IV drugs, the cost of administration will increase the total cost.

1. In AIDS and in other highly immunocompromised patients with retinitis, chronic suppression is recommended.
2. Dosage reduction is recommended for creatinine clearance <80 ml/minute.
3. Cost of suppression for 30 days.
4. Lower doses of ganciclovir should be used to minimize leukopenia in renal transplant patients also taking azathioprine *(Imuran)* or mycophenolate mofetil *(CellCept):* creatinine 1.8-2.5: 1 gm bid; creatinine >2.5: 1 gm daily; dialysis dependent: 500 mg daily (Flechner SM, et al: *Transplantation* 1998; 66:1682).
5. Systemic therapy is recommended to prevent CMV disease in the contralateral eye and other organ systems.
6. Dosage reduction is recommended for creatinine clearance <1.6 ml/min/kg.
7. Over two hours. Higher doses (120 mg/kg/day) appear to be more effective but may be less well tolerated.
8. Not recommended for patients with serum creatinine >1.5 mg/dL, creatinine clearance <55 ml/min or proteinuria 2,100 mg/de (2+ by dipstick). Dose reduction to 3 mg/kg is recommended for serum creatinine 0.3 to 0.4 mg/de above baseline.
9. With monotherapy in patients also infected with HIV, HIV resistance to lamivudine emerges rapidly.
10. Pediatric dosage is three million units /m2 3x/wk SC for first week, then six million units /m2 (maximum 10 million units) 3x/wk for 16 to 24 weeks.
11. For genotype 1 infections. Six months is sufficient for other genotypes.
12. Many experts recommend stopping the drug if no response in aminotransferase activity by three to four months. The optimal dosage and duration of therapy are still under study.
13. For retreatment, 15 μg 3x/wk x six months.
14. Cost based on purchase of 2-gram tube containing 20 mg of penciclovir.
15. For severe initial genital herpes, intravenous acyclovir (5 mg/kg q8h for five to seven days) can be used. Dosage reduction is recommended for creatinine clearance <50 ml/minute.
16. Not approved by the FDA for this indication.

Viral infection	Drug of choice	Adult Dosage	Cost*
chronic suppression	Acyclovir—generic price	400 mg PO bid	$37.60[3]
	Zovirax		152.11
	or Valacyclovir—Valtrex	500-1000 mg PO 1x/d	99.34[3]
	or Famciclovir—*Famvir*	250 mg PO bid	210.20[3]
Mucocutaneous disease in immunocompromised	Acyclovir	5 mg/kg IV q8h x 7-14d[18]	
	average generic price		685.85
	Zovirax		901.61
	or generic price	400 mg PO 5x/d x 7-14d	21.93
	Zovirax		88.73
Encephalitis	Acyclovir	10-15 mg/kg IV q8h x 14-21d[19]	
	average generic price		2,380.13
	Zovirax		3,546.49
Neonatal	Acyclovir[16]	20 mg/kg IV q8h x 14-21d	
	average generic price		242.04[20]
	Zovirax.		360.66[20]
Acyclovir-resistant	Foscarnet—*Foscavir*	40 mg/kg IV q8h x 14-21d	1,459.25
Keratoconjunctivitis	Trifluridine Viroptic[21]	1 drop of 1% solution topically every 2 hours, up to 9 drops/d x 10d	74.44[22]
Influenza A and B Virus			
	Zanamivir—Felenza	10 mg bid x 5d by inhaler	44.40
	Oseltamivir—*Tamiflu*	75 mg PO bid x 5d	53.00
Influenza A Virus			
	Rimantadine—*Flumadine*	200 mg PO 1x/d or 100 mg PO bid x 5d[23]	18.87
	or Amantadine	100 mg PO bid x 5d[24]	
	generic price		1.73
	Symmetrel		9.82
Respiratory Syncytial Virus[25]			
	Ribavirin—*Virazole*	aerosol treatment 12-18 hrs/d x 3-7d[26]	1,319.85[27]
Varicella-Zoster Virus (VZV)			
Varicella	Acyclovir—generic price	20 mg/kg (800 mg max) PO qid x 5d	25.36
	Zovirax		98.59
Herpes zoster	Valacyclovir —*Valtrex*	1 gram PO tid x 7d	91.59
	or Famciclovir—*Famvir*	500 mg PO tid x 7d	147.67
	or Acyclovir—generic price	800 mg PO 5x/d x 7-10d	44.21
	Zovirax		172.54
Varicella or zoster in immunocompromised	Acyclovir—average generic price	10 mg/kg IV q8h x 7d	1,210.20
	Zovirax		1,803.52
Acyclovir-resistant	Foscarnet—*Foscavir*	40 mg/kg IV q8h x 10d	1,021.51

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17. For treatment of recurrent HSV in HIV-positive patients, the manufacturer recommends 500 mg PO bid.
18. Pediatric dosage is 250 mg/m^2 IV q8h for 7 to 14 days.
19. Pediatric dosage is 500 mg/m^2 q8h for 14 to 21 days.
20. Cost based on a 3-k infant.
21. An ophthalmic preparation of acyclovir is available in some countries. Treatment of HSV ocular infections should be supervised by an ophthalmologist; duration of therapy and dosage depend on response.
22. Cost based on purchase of a 7.5-ml bottle.
23. Pediatric dosage is 5 mg/kg/day up to a maximum of 150 mg/day. Dosage of 100 mg/day is recommended for older nursing home residents, for patients ≥65 years old with adverse effects from 200 mg/d, and for patients with severe hepatic dysfunction or creatinine clearance ≤10 ml/min.
24. The recommended pediatric dosage is 5 mg/kg/day up to a maximum of 150 mg/day. Dosage should be decreased in patients with diminished renal function (creatinine clearance <50 ml/min), and those over 65 years old should take 100 mg/day.
25. Immunoprophylaxis in young children (<24 months) with bronchopulmonary prematurity (<35 weeks gestation) is approved with intravenous RSV immune globulin (RespiGam, Medimmune) (Committee on Infectious Diseases, *Pediatrics* 1997; 99:645). Palivizumab *(Synagis),* an injectable monoclonal antibody given by monthly injection, also can be used for prophylaxis in premature infants (<35 weeks gestation) or children <24 months old with bronchopulmonary dysplasia (*Medical Letter* 1999; 41:3).
26. Reservoir concentration of 20 mg/ml. Requires special aerosol-generating device *(Spag-2*—Viratek) and expert respiratory therapy monitoring for administration.
27. Cost of a 6-gram vial.
28. Pediatric dosage is 500 mg/m2 q8h for seven to 10 days.

Rimantadine has gastrointestinal adverse effects similar to those of amantadine, but a lower risk of CNS adverse effects. Also, rimantadine is extensively metabolized before renal excretion, so that dosage reductions are not needed until creatinine clearance falls below 10 ml/min. Both amantadine and rimantadine are teratogenic in animals and contraindicated during pregnancy.

Resistance—Influenza A viruses cross-resistant to both amantadine and rimantadine can emerge when either of these drugs is used to treat influenza infections (Englund JA, et al: *Clin Infect Dis* 1998; 26:1418). Viruses resistant to amantadine and rimantadine remain susceptible to the neuraminidase inhibitors oseltamivir and zanamivir.

CIDOFOVIR ***(Vistide)***—Intravenous cidofovir given once weekly for two weeks and then once every two weeks for maintenance can delay progression of CMV retinitis (*Medical Letter* 1997; 39:15). Intravenous and topical cidofovir have been reported to produce resolution of severe molluscum contagiosum in immunosuppressed patients (Davies KG, et al: *Lancet* 1999; 353:2042).

Adverse Effects—About 25% of patients have discontinued intravenous cidofovir due to adverse effects such as nephrotoxicity, neutropenia, and metabolic acidosis. Iritis, uveitis, or ocular hypotony can occur. To decrease the risk of nephrotoxicity, IV saline and oral probenecid are given before and after each dose. Cidofovir is contraindicated in patients taking other nephrotoxic agents. It is oncogenic in animals. Topical cidofovir causes local irritation and ulceration, especially in concentrations of 3% or higher.

Resistance—Ganciclovir-resistant CMV clinical isolates are rarely cross-resistant to cidofovir. Acyclovir-penciclovir-resistant HSV or VZV may be susceptible to cidofovir.

FAMCICLOVIR *(Famvir)*—Famciclovir, which is rapidly converted to penciclovir after oral administration, is an alternative to acyclovir. It has been effective in treating first episodes and recurrences of HSV and for its chronic suppression. Taking the drug twice daily is more effective than once-a-day dosage for chronic suppression of recurrent genital herpes. A higher dose (500 mg bid) has suppressed HSV infections in HIV-infected patients (Schacker T, et al: *Ann Intern Med* 1998; 128:21). Administration of famciclovir to immunocompetent patients over 50 years old with herpes zoster within 72 hours after onset of rash decreases the duration of postherpetic neuralgia, but not its incidence.

Adverse Effects—Famciclovir has been generally well tolerated. Headache, nausea, and diarrhea have been reported. Like acyclovir, famciclovir has been associated with dose-related adverse effects on testicular function in animals, but not in humans. In rats, 600 mg/kg/day of famciclovir for two years increased the incidence of mammary adenocarcinoma.

Resistance—HSV and VZV strains resistant to acyclovir or valacyclovir have generally been cross-resistant to famciclovir or penciclovir.

FOMIVIRSEN ***(Vitravene)***—Fomivirsen, an antisense oligonucleotide, is approved by the FDA for intravitreal treatment of CMV retinitis in HIV-infected patients who cannot tolerate or have not responded to other drugs. The manufacturer recommends, however, not giving fomivirsen to patients who have been treated with cidofovir in the previous two to four weeks. The most common reported adverse effects include iritis, vitritis, increased intraocular pressure, and vision changes. *In vivo* resistance has not been observed (Perry CM, Balfour JAB: *Drugs* 1999; 57:375).

FOSCARNET ***(Foscavir)***—Foscarnet (*Medical Letter* 1992; 34:3) is effective in CMV retinitis, including progressive disease due to ganciclovir-resistant strains, and in acyclovir-resistant HSV or VZV infections. It is more expensive and generally less well tolerated than ganciclovir, and requires controlled rates of infusion in large volumes of fluid.

Adverse Effects—Renal dysfunction often develops during treatment with foscarnet and is usually reversible, but renal failure requiring dialysis may occur. Renal toxicity is increased in patients receiving other nephrotoxic drugs such as amphotericin B *(Fungizone)*, aminoglycoside antibiotics, or pentamidine *(Pentam 300)*; adequate hydration may decrease the risk. Nausea, vomiting, anemia, fatigue, headache, genital ulceration, CNS disturbances, hypo- and hypercalcemia, hypo- and hyperphosphatemia, hypokalemia, and hypomagnesemia have also occurred. The risk of severe hypocalcemia, sometimes fatal, is increased by concurrent IV pentamidine. Foscarnet may increase the risk of zidovudine-related anemia. It causes chromosomal damage *in vitro* and *in vivo*.

Resistance—HSV, VZV, and CMV strains resistant to foscarnet can emerge during treatment. Combined use of foscarnet and ganciclovir may benefit some patients failing monotherapy. CMV strains resistant to both ganciclovir and foscarnet have been reported.

GANCICLOVIR ***(Cytovene)***—IV ganciclovir is used to treat CMV infections, most commonly retinitis, colitis, and esophagitis, in AIDS and other immunocompromised patients, and to prevent and treat CMV disease in transplant patients. An intraocular implant that releases ganciclovir *(Vitrasert-* Chiron Vision) has been more effective than IV ganciclovir for the eye with the implant, but is not effective in the other eye or other organs. In AIDS patients not taking a protease inhibitor, combining the implant with high-dose (4.5 gm/day) oral suppression decreases the risk of contralateral retinitis and extraocular CMV disease, and delays ipsilateral progression (Martin DF, et al: *N Engl J Med* 1999; 340:1063).

Oral ganciclovir alone can be used as maintenance treatment for AIDS patients with CMV retinitis, but is less effective than the IV formulation. Oral ganciclovir or IV ganciclovir followed by high-dose oral acyclovir reduces the risk of CMV disease in patients who have had orthotopic liver transplantation, including seronegative recipients of seropositive donations (Gane E, et al: *Lancet* 1997; 350:1729; Badley AD, et al: *Transplantation* 1997; 64:1). Oral ganciclovir for three months is superior to oral acyclovir in preventing CMV infection and disease in recipients of seropositive kidney transplants (Flechner SM, et al: *Transplantation* 1998; 66:1682).

Adverse Effects—Ganciclovir is teratogenic, carcinogenic and mutagenic and causes aspermatogenesis in animals. Granulocytopenia and thrombocytopenia are more common with the IV formulation and are usually reversible. Severe myelosuppression may occur more frequently when the drug is given concurrently with zidovudine *(Retrovir)*, azathioprine *(Imuran)*, or mycophenolate mofetil *(CellCept)*. Granulocyte-colony-stimulating factors (GM-CSF; G-CSF) have been used to treat ganciclovir-induced neutropenia. Other reported adverse effects of systemic ganciclovir include retinal detachment in patients with CMV retinitis, fever, rash, phlebitis, confusion, abnormal liver function, renal dysfunction, headache, GI toxicity and, rarely, psychiatric disturbances and seizures.

Resistance—Ganciclovir resistance may be associated with persistent viremia and progressive disease. About 20% of solid organ transplant recipients failing oral ganciclovir prophylaxis excrete resistant virus. CMV strains resistant to ganciclovir *in vitro* may be susceptible to foscarnet or cidofovir.

INTERFERON ALFA—Parenteral interferon alfa can produce clinical remissions in some patients with hepatitis B or C. Interferon alfa is available as alfacon-1 *(Infergen)*, alfa-n3 *(Alferon N)*, alfa-2a *(Roferon-A)*, alfa-2b *(Intron A)*, and alfa-2b in a combination with oral ribavirin *(Rebetron)*. In about one third of adults and children with chronic hepatitis B, interferon alfa-2b causes loss of hepatitis B antigens, return to normal aminotransferase activity, sustained histological improvement and, in adults, a lower risk of progressive liver disease (Niederau C, et al: *N Engl J Med* 1996; 334:1422; Sokal EM, et al: *Gastroenterology* 1998; 114:988). AIDS patients with hepatitis B generally respond poorly to interferon treatment. Hepatitis D (hepatitis delta virus; HDV), which occurs only in patients infected with hepatitis B, may respond to treatment with high doses of interferon alfa, but relapse is common.

All forms of interferon alfa appear to be similar in effectiveness against hepatitis C. In chronic hepatitis C, six months' treatment with interferon alfa is associated with sustained post-treatment biochemical normalization in only 15% to 20% of patients and loss of HCV RNA in only 10% to 20%. Treatment for 12 months increases the incidence of sustained biochemical normalization to 20% to 30% (Management of Hepatitis C, NIH Consensus Development Statement, 1997; 15:13). In a retrospective study, interferon appeared to decrease the risk of hepatocellular carcinoma in patients with chronic hepatitis C, especially among patients with sustained responses (Yoshida H, et al: *Ann Intern Med* 1999; 131:174, 3 August). Combination treatment with interferon and oral ribavirin has been associated with higher response rates than with interferon or ribavirin alone (*Medical Letter* 1999; 41:53). Interferon therapy can also benefit patients with acute hepatitis C.

Adverse Effects—Intramuscular or subcutaneous injection of interferon is commonly associated with an influenza-like syndrome, especially during the first week of therapy. High-dose or chronic therapy may be limited by bone marrow suppression, profound fatigue, myalgia, weight loss, increased susceptibility to bacterial infections, psychiatric syndromes including depression, anxiety, emotional lability, and agitation, increased aminotransferase activity, alopecia, hypo- or hyperthyroidism, tinnitus, reversible hearing loss, auto-antibody formation, and possibly cardiotoxicity. Adverse reactions occur in most patients at high doses; 10% to 40% of those treated for chronic HBV require dosage reduction and about 5% require discontinuation of therapy. Autoimmune chronic hepatitis and other autoimmune diseases like thyroiditis may be exacerbated by treatment with interferon.

LAMIVUDINE (3TC; *Epivir HBV*)—This antiretroviral nucleoside analog used to treat HIV is also approved by the FDA for treatment of chronic hepatitis B. A one-year trial involving 358 chronic HBV patients in China found that 56% taking 100 mg of lamivudine daily improved histologically and 72% had sustained normalization of aminotransferase activity; seroconversion to anti-HBeAg occurred in 16% of patients after one year and increased to 27% after two years (Lai CL, et al: *N Engl J Med* 1998; 339:61; Dusheiko G: *Lancet* 1999; 353:1032). Oral lamivudine (100 mg daily beginning four weeks before and continuing up to 90 weeks afterwards) appears to reduce the risk of HBV reinfection in orthotopic liver transplant recipients (Grellier L, et al: *Lancet* 1996; 348:1212). Combination therapy with interferon alfa and lamivudine does not appear to lead to higher response rates than monotherapy.

Adverse Effects—Lamivudine is generally well tolerated. Pancreatitis has been reported in children.

Resistance—Resistance emerges in 14% of HBV-infected patients receiving lamivudine for one year and 38% for two years. Resistant variants replicate less *in vitro,* but have been associated with progressive liver disease in liver transplant recipients (Ben-Ari Z, et al: *Transplantation* 1999; 68:232).

OSELTAMIVIR ***(Tamiflu)***—This oral neuraminidase inhibitor, started within 36 hours of symptom onset, can decrease the severity and duration of symptoms caused by either influenza A or B and may also decrease the incidence of upper respiratory complications (*Medical Letter* 1999; 41:91). Taken once or twice daily for prophylaxis, it appears to be about 75% effective in preventing illness and 87% effective in preventing culture-proven influenza (Hayden F, et al: *N Engl J Med* 1999; 341:1336, 28 October 28).

Adverse Effects—Nausea and vomiting can occur. Taking the drug with food decreases the incidence of nausea.

PENCICLOVIR ***{Denavir)***—Topical penciclovir 1% cream *(Denavir)* may be helpful in treating recurrent orolabial herpes simplex virus (HSV) infections in immunocompetent adults (*Medical Letter* 1997; 39:57). The drug decreased the average time to healing of lesions by 0.7 days and the duration of pain by 0.6 days (Spruance SL, et al: *JAMA* 1997; 277:1374).

RIBAVIRIN ***(Virazole, Rebetron)***—A synthetic nucleoside, ribavirin used as an aerosol *(Virazole)* may decrease morbidity in some children hospitalized with respiratory syncytial virus (RSV) bronchiolitis and pneumonia. It is not recommended for use in infants. Combination treatment of hepatitis C with interferon alfa and oral ribavirin *(Rebetron)* has produced higher sustained response rates than interferon or ribavirin alone (*Medical Letter* 1999; 41:53). Patients relapsing after interferon monotherapy, but only rarely those failing ribavirin monotherapy, may respond to the combination. Intravenous ribavirin appears to decrease mortality in Lassa fever and in hemorrhagic fever with renal syndrome caused by hantavirus.

Adverse Effects—Ribavirin is teratogenic and embryotoxic in animals, and is generally contraindicated in pregnancy. Pregnant women should not directly care for patients receiving ribavirin aerosol. Acute deterioration of respiratory function has been reported with ribavirin aerosol in infants and in adults with bronchospastic lung disease. Systemic ribavirin has been associated with hemolytic anemia. Oral ribavirin plus interferon appears to cause a higher incidence of cough, pruritus, and rash than interferon alone. Psychiatric disturbances, including depression, are the most common reasons for discontinuing the combination.

TRIFLURIDINE ***(Viroptic)***—Trifluridine is a nucleoside analog active against herpes viruses, including acyclovir-resistant strains. It is approved as an ophthalmic preparation for treating HSV ocular infections.

VALACYCLOVIR (Valtrex)—Valacyclovir (*Medical Letter* 1996; 38:3) is an L-valyl ester of acyclovir that is almost completely metabolized to acyclovir after oral administration, resulting in higher bioavailability than with acyclovir itself. Plasma acyclovir concentrations following high doses of oral valacyclovir can resemble those following intravenous acyclovir. In immunocompetent adults more than 50 years old with herpes zoster, valacyclovir 1,000 mg t.i.d. for seven days produced more rapid resolution of zoster-associated pain and a shorter duration of postherpetic neuralgia than acyclovir (Beutner KR, et al: *Antimicrob Agents Chemother* 1995; 39:1546). In first-episode or recurrent genital herpes, valacyclovir twice daily is as effective as acyclovir given five times per day. Valacyclovir (500 mg once daily) is effective for suppression of genital HSV, but a higher dose (500 mg b.i.d.) may be needed in those with very frequent recurrences (Baker DA: *Obstet Gynecol* 1999; 94:103, July). Valacyclovir 2,000 mg q.i.d., in comparison to oral acyclovir, decreased the risk of developing serious CMV disease in seropositive AIDS patients, but was associated with a higher dropout rate and a higher mortality rate (Feinberg J, et al: *J Infect Dis* 1998; 177:48). Valacyclovir prophylaxis (2 grams q.i.d. for 90 days) reduced the risk of CMV disease and acute graft rejection in kidney transplant recipients, including seronegative recipients of seropositive donors (Lowance D, et al: *N Engl J Med* 1999; 340:1462.

Adverse Effects—Valacyclovir is generally well tolerated, but a thrombotic thrombocytopenic purpura/hemolytic uremic syndrome has been reported in some severely immunocompromised patients treated with high doses for prolonged periods. Hallucinations and confusion occur. Other adverse effects have been similar to those with acyclovir.

ZANAMIVIR ***(Relenza)***—This orally inhaled neuraminidase inhibitor (*Medical Letter* 1999; 41:91), for treatment of acute uncomplicated influenza A or B in adults and adolescents, started within 30 hours after onset of symptoms, can shorten the duration of illness and may decrease the incidence of some respiratory complications. Used prophylactically once daily, inhaled zanamivir was 67% effective in preventing influenza illness and 84% effective in preventing febrile influenza (Monto AS, et al: *JAMA* 1999; 282:31, 7 July).

Adverse Effects—Nasal and throat discomfort can occur. Bronchospasm has been reported in patients with asthma.

Commentaries

Implications of the Demise of the Teaching Hospital Network

Some years ago, as a faculty member at a large urban teaching hospital, I sat through a presentation by Rick Scott, then the CEO of Columbia/HCA. Mr. Scott stated that only contemporary business practices could save us from ourselves. We were, after all, inefficient, ineffectual, and constitutionally unable to function as a business. The immediate rejoinder that came to many of us simultaneously was simple: we're not a business. The next thoughts were more troubling: if we're not a business, then what are we and who is looking out for us and the patients we serve? Mr. Scott has since departed from the upper echelon of health-care management, and the teaching hospital where I listened to him still survives, albeit under new ownership. Many other teaching hospitals have closed in the interim, and the latest round of funding cutbacks has brought a large fraction of the remaining institutions to their knees.

If the trend continues, the urban teaching hospital network as we have known it will be completely gone within 10 years. A handful will survive, under a limited consortium type of management, and with strictly defined missions. What will this mean for physicians and their patients?

For physicians it means the loss of a world of contacts whereby teaching occurred, research flourished, and much good care was given to our poorest fellow citizens. Training will continue, most likely at a reduced level, and with more patient surrogates: standardized professional patients, and computer simulations. Research will continue, most likely with more targeted goals, more corporate agendas, and a strict performance standard which will discourage participation by independent clinicians.

Patient care, particularly for the most indigent, will undergo a profound shift. Taking cues from trends to limit government entitlements as well as to cut costs in private insurance programs, a thin "basic package" of services will evolve. This package will be delivered for the most part by nonphysician providers, and few nurses will have meaningful roles either.

What will be lost ?

The technical teaching function is achievable by multiple alternative modalities; the lessons of intimate encounters with a variety of real patients is not so easily duplicated. This will risk further erosion of the already threatened humanistic development of physicians.

The commercialization of the research role will stifle certain lines of thought, ultimately impoverishing our research pool. It is easy to imagine a shift of research preeminence elsewhere.

For our poorest patients, the loss of geographically and financially accessible sites where their health-care needs have traditionally been met will cause frustration and anxiety. Later—if no effective substitute is found—their health will decay. The well-documented widening gap between rich and poor in this country will widen a bit more.

What will be gained?

The critics of the teaching hospital are many. They point to traditional political fiefdoms, large egos, bloated bureaucracies, and academic arrogance. They say that years of feeding at the federal trough have corrupted the system, and that no segment of the economy should be immune from cost accounting. They say America will be a better place when the multiple roles of the teaching hospitals are analyzed, divided, dispersed, and managed more appropriately. The gain they point to is an undefined but large savings that society could theoretically apply to more pressing needs. To date, however, they have not offered an alternative that offers anything close to the range of service and societal contributions of the teaching hospitals.

Should any of this matter to physicians? While not wishing to appear as Luddites in the face of inevitable change, we must consider whether or not the rapid loss of our traditional professional base should occur on purely economic grounds, and at what cost to those of our patients least able to find an effective substitute. Our most vulnerable patients have few enough advocates now. Who will treat them once the current network is gone? And what will happen to the rest of our patients once the example has been made of providing care without physicians?

Stephen Sandroni, MD
Medical Director, Ambulatory Primary Care
St. Mary's Hospital, Waterbury
Clinical Assistant Professor of Medicine
Yale University School of Medicine, New Haven

Golf Course Injuries

Trauma incurred while playing golf, a noncontact sport, is a rare event but one that should be discussed and categorized. It is important to understand the type of injury that one is liable to sustain while engaged in this sport and to take steps to avoid such an occurrence. This is particularly true for the host of older and more injury-prone people that are currently flocking to retirement facilities that are constructed adjacent to golf courses and that emphasize participation in the sport as a way of life.

Direct injury.—It is obvious that there is some risk of being directly struck by an errant golf shot. This can be serious in nature particularly if the eye is injured. This type of injury may be more likely to occur in the hearing impaired, not uncommon in the elderly retired. This is due to the inability to hear the warning shout of "Fore!" and to take appropriate evasive action. That this can easily happen has been recently demonstrated by the mayhem wreaked upon the golf tournament gallery by ex-Presidents Ford and Bush.

Other forms of direct injury may result from standing too close to a golfer whose swing arc may impinge upon that individual. Clubs have been known to slip from the grasp of the golfer particularly if the swing is violent and if the club grip is moist as in wet weather. This type of injury can be best avoided by standing well away from the golfer particularly if the swing is forceful. It must be stated also, that in some cases the club may be thrown with due deliberation as a result of disappointment over the results of a poorly executed shot. Injuries sustained in this manner may be harmful due to the rapid rotation of the club and the speed with which it is launched (whirly birding). The physical principle of Force = Mass multiplied by Acceleration ($F = MA$) applies. Again, keeping a safe distance and not inciting the golfer to this behavior by overtly cackling over his or her ineptitude will aid in preventing this form of distressing trauma.

Since many golfers, particularly the elderly retired, are now using motor driven carts, injuries sustained as a result of their use are increasingly common. As there are no seat belts required, ejection of a passenger from the cart when rounding a turn at full speed has been known to occur. Musculoskeletal injuries can occur including garden variety extremity fractures. Twisting injuries in the elderly may give rise to hip fractures. Driving the cart into woods may result in facial and head injuries due to running under a low lying tree branch. It is emphasized that the passenger is at considerably more risk of injury due to cart driving than the driver who has grasp of the wheel and control of the vehicle. Abrupt stops and crashes into trees, rocks, ditches, or other impediments can produce whiplash types of injuries to the cervical spine. Carelessness can be abetted by the use of central nervous system depressants. Most commonly this consists of alcohol which is generally freely available at most country clubs and resorts. Search of the literature for a case precedent in which a summons for DUI has been issued for drunken golf cart driving has failed to turn up an example. The question of driver liability for passenger injuries needs clarification in this regard. Also to be seriously considered is whether or not alcohol breathalyzer testing should be carried out prior to assigning a cart to a driver.

Indirect injuries.—In recent years a practice has evolved in athletics wherein a specific reward behavior has developed. This reward behavior, though seemingly innocuous, is capable of serious and disabling injury. The name applied to this celebratory action is the "High Five." This occurs following an unusually dramatic and splendid golf stroke, generally a successful long, tortuous putt, or holing out a chip or trap shot. The golf partner, overcome with joy, rushes to the shot maker and, with upraised palm, delivers a sharp blow to the similarly upraised palm of the stunned and incredulous great shot perpetrator. In the cognitively lapsed condition of disbelief that follows such a dramatic event, the shot maker is too relaxed and dazed to protect the hand and wrist from the effects of the blow rendered to it. If the deliverer of the blow is hugely muscled, as some are, the injury can be significant. Occasionally a weak partner will also wreak havoc by an off center, oblique type of feeble blow that delivers unusual twisting forces to the supporting structures of the wrist and the metacarpal-phalangeal joints. Carpal tunnel syndrome may result. Pre-existing osteoarthritis of the wrist, fingers, and the thumb may be aggravated. The thumb itself may be damaged by an inaccurate "high five." The devastating injury of "game keepers" thumb can be sustained by a sloppy or missed "high five." This may require surgery for repair but residual disability can be expected. It is recommended that remedial education programs be instituted at all golf courses regarding the vicious and injurious "high five" phenomenon. For relapsing practitioners of "high five," an eclectic program of recovery is suggested. If this fails appropriate psychotropic medication may be instituted by a qualified psychiatrist.

Psychological injury.—Physical injury from golf is minuscule when compared to the psychological damage that can occur as a result of participation in this sport. As a physician, I find it difficult to explain why we endure the frustration and humiliation of repeated failure to develop a consistent and rewarding ability to play this game. I surmise that this truly represents mankind's fall from grace as a result of the first sin committed by Adam and Eve. The illogical hope of "improvement," the constant wrestling with swing basics—the shoulder turn, shifting one's weight, etc.—makes life a living hell. Is this just? Is this our reward for perseverance? Can this be all there is after years of hard work and the attainment of seniority, retirement, and a house on the 16th fairway? This achievement is followed by physical deterioration, loss of muscle mass, and frailty impeding the realization of the dream of accurate and powerful golf shot making. Not even sneaking onto the ladies tees is found helpful. Yet, the game is seductive. It is a siren's song. In every round, fate and chance yield a shot that inspires hope—the belief that, "At last I've got it." How deluded and foolish we are! The golf marketers, sneeringly and with behind the back chirping and cackling, know they have us duped. Four hundred fifty dollar drivers, nine woods—"heaven woods" so oppositely named—graphite shafts, all sorts of putters—all go like hot cakes inspired by a vain and insane longing for the paradise, the Eden, of golfing ability coupled with the desire to beat one's opponents to a pulp. Say it ain't so Joe! Maybe Prozac will help.

Henry N. Blansfield, M.D.
A retired surgeon from Danbury, Connecticut
and a member of the Ridgewood Country Club
After winning the super-seniors championship at the Ridgewood in 1993, he has retired from competitive golf stating that this feat was simply a brief premortem window of experience based on a deal worked out with Mephistopheles.

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50 Years Ago

From *The Connecticut State Medical Journal*

February 1950

Medicine in the Atomic Age

REAR ADMIRAL H. L. PUGH, *M.C., U.S. NAVY*

The Author. *Deputy and Assistant Chief of the Bureau of Medicine and Surgery*

THE most phenomenal circumstance concerning our civilization, I believe, has been the amazing advancement in scientific achievement during the first half of this, the twentieth century.

I shall not attempt an explanation beyond the observation that the meteoric advance seems to have been related, both directly and indirectly, to the discovery of certain key principles or entities which have made development along multifarious lines possible. Such a key or trigger discovery, and one which bids fair to be equally as revolutionary in its potentialities as were fire and electricity, was the discovery of atomic fission.

That it was possible to split atoms and thereby to release fantastic amounts of energy is not a brand new discovery, as it was thought to have been in 1945 when the first atom bombs were dropped on Hiroshima and Nagasaki, Japan.

As long ago as 1896 Becquerel discovered that uranium was radioactive. This was followed in 1898 by the Curies' separation of radium from pitch-blende. The alpha particle was discovered by Rutherford in 1904, and forty years before Hiroshima and Nagasaki, Albert Einstein enunciated the equivalence of mass and energy. And so down through the years, bit by bit, experiment by experiment, and formula by formula, mankind has gradually edged closer and closer to the ultimate goal—the attainment of the ability to split the atom—until January of 1939, when Hahn and Strassman in Germany produced fission of uranium.

In the fall of 1941, preliminary studies on the atomic bomb were begun at the University of Wisconsin under the direction of Professor Breit and were continued in 1942 under Prof. J. R. Oppenheimer at the University of California. Late in 1941, the United States Top Policy Group, with Dr. Vannevar Bush as a member, recommended reorganization of the program with greatly enlarged activity under Army jurisdiction. In August of 1942, the Manhattan District was officially established for this purpose.—So much for the historical background.

The epochal sound and fury which proclaimed the dawn of the atomic era to this earth went up from the ruins of Hiroshima and Nagasaki in the summer of 1945. At first, the enormity of these events seemed too great for the intellect of any but a few inordinately endowed individuals. As time has gone on, however, the average man has come to grasp something of a fundamental understanding of the intricacies and complexities of nuclear physics and atomic fission. Very early it became apparent to doctors of medicine that here was both a stupendous challenge and possibly a potential source of the key to some of medicine's most formidable and apparently insoluble problems. The average medical student is probably disposed to regard Einstein's theory of relativity as beyond his realm of comprehension. However, I daresay the day will come when students will deal with the physics of atomic energy with as much impunity as today they deal with the physics of heat or of electricity, and the formula of Einstein, $E=MC^2$, will be as matter of fact and no more strange than that of the laws of Newton that $F=MA$ or $KE=\frac{1}{2}MV^2$. Every discovery of any considerable moment has been attended by doubts, confusion, and bewilderment in the public mind, with the degree of these elements varying usually with the magnitude and importance of the particular discovery, and so with respect to atomic or nuclear physics one's first inclination is very likely to be towards the assumption of an attitude of hopelessness in so far as understanding its intricacies is concerned and, therefore, he declines to become interested. This type of ultramodest individual might find considerable consolation in the aphorism of Robert Burton, however, "that a dwarf standing upon a giant's shoulders may see further than the giant himself." Albeit, there will be times when,—with due

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regard to Victor Hugo,—whether or not what is being seen are "constellations of profundity or duck tracks in the mud on the bottom of the pond" will not always be easy to make out.

Although the press has filled the subject of radio activity with a great aura of mystery, the basic ideas are easy enough to grasp, and although close examination of the theory of the process leads one into realms of unpleasant exactitudes, all this theory and all these terrifying presentations of seemingly profound mathematics are really not necessary for most practical purposes. For example, we hear a lot today about isotopes. All doctors of medicine really need to know about these elements is that we have isotopes whenever we find two or more chemical elements which have the same atomic number, which is to say, the same nuclear charge—the same number and arrangement of orbital electrons and identical chemical properties, but which differ in atomic weight or in the structure of the nucleus due to variation in the number of neutrons. Those with a flair for erudition may even like to know that the word came from two Greek words, "iso" meaning equal and "tope" meaning place. Radioactive isotopes are isotopes having radioactive properties. Such isotopes of all the chemical elements have been produced by bombarding appropriate elements in a cyclotron or "cooking" them in a uranium pile; they also result from fission as in a bomb. The most important of these in medicine are those of carbon, iron, iodine, sodium, sulphur, and phosphorus. It is a fact that most of the uses of isotopes today are by people untrained in nuclear physics, but who are able workers in such fields as general biology, botany, agriculture, physiology, roentgenology, and clinical and experimental medicine.

It is worthy of reflection that several of our universities today have on the same campus an astronomical observatory and a cyclotron—one for the study of spaces and bodies of such enormous magnitudes as to be far beyond the simple conception of imagination of man; the other for the study of infinitely small particles and spaces—equally as removed from magnitudes conceivable by the human mind. And yet there is a remarkably significant resemblance between these two systems. It is held that the component elements of an atom and of a planetary system are essentially alike. A most amazing feature of their similarity is that both are filled principally with vast areas of emptiness in proportion to the sizes of the solid bodies. The studies of both systems provide the formulation of physical laws that are applicable to all sciences, including the science of medicine and the search for ways to answer the cry for relief of human ills.

There are no more missing links in the periodic table. All intermediate elements are now known—from hydrogen (No. 1) to curium (No. 96) along with some 600 isotopes of these elements. All of them may be said to be either awaiting or now undergoing further investigation as to their potential values for medical research and practical applications, as well as for research and application in virtually every other field of science.

The appearance of atomic energy's star in today's scientific firmament has brought with it a vast assortment of problems, many fascinating and some fantastic potentialities and probabilities, and a great array of compelling responsibilities. To no profession so much as to that of medicine is its challenge more prodigious.

The medical profession is interested in atomic energy upon at least two major scores or counts. First, it is interested in determining how it can be bent to usefulness and, secondly, how to guard against its deleterious effects. Interest in its usefulness is tripartite and is directed towards what may be done with it:

(a) As a prophylactic agent.

(b) As a therapeutic agent.

(c) As a diagnostic aid and as a means of enhancing our knowledge with regard to matters of medical importance.

It is in this third category—diagnosis and research—that our most interesting observations have been made, and certainly one of the most important is that which pertains to radioactive tracer techniques. This technique is not new. It was described as early as 1922 by Hevessey, when he demonstrated his ability to detect traces of lead and bismuth in plants, and again in 1935, when he demonstrated the transit of phospholipids and nucleo-proteins in animals. Nevertheless, renewed interest has of late been shown in this matter of tagging tracer substances Here is a technique by which all the tools of biological investigations can be sharpened. By tagging an element with radio activity, one can follow a chemical compound to any part of the body (or a plant), see what happens to it, where it goes, and detect and measure its presence in quantities so minute as to be far beyond the reach of our classical chemical and physical methods, no matter how wonderfully delicate we once considered those classical methods to be. Of perhaps the greatest importance is the application of tracer techniques to the study of cancer and the growth of tissues. One can observe the rapid uptake of certain elements by cancer and fast growing tissues as compared to the slow uptake of the same elements by normal and slow growing tissues. Among the clinical applications of this technique should be mentioned the following:

1. By using sodium 24, one can make exact observations on circulation disorders. One can determine the exact level at which circulation has stopped in an extremity, and can thus decide the level above which an amputation may be done.

2. Some workers have already expressed the opinion that phosphorus 32 is superior to x-ray in the treatment of

polycythemia vera, because the phosphorus treatment is simpler and easier to administer and less apt to produce the radiation sickness that may accompany intensive x-ray. It is however, not easy or simple from the standpoint of dosage control, radiologic safety, and equipment. It probably does not prolong the life of leukemic patients, but like x-ray can produce remissions of comfort and a feeling of well being sufficient to permit the return of one to his occupation. X-ray, however, still probably remains the weapon of choice against lymphomatous neoplasms at the present time.

3. The treatment of Graves' disease with iodine 131 is now considered by many to be superior to x-ray or surgery in certain selected cases, especially those unsuitable for surgery. It is less hazardous, less troublesome to the patient perhaps, and less expensive, and, moreover, it produces equally as gratifying results as regards control of symptoms. We cannot, however, be disregardful of associated radiation effects and remote possibilities, and so must pick our cases. Certain cases of thyroid carcinoma show spectacular improvement under treatment by radioactive iodine.

4. Diagnosis of malignancies, multiple myeloma, can be distinguished from metastatic carcinoma by the rate of uptake of phosphorus 32 at the site of the lesion in question. In breast tumor, the decision as to the benign or malignant nature of a lesion may be made by the rate of uptake of phosphorus 32 to the diseased breast as compared to the other (normal) breast. If benign, there should be no difference in the uptake. If malignant, the diseased breast will show a much higher uptake. Some workers consider this method more reliable than the frozen section methods. Cases of thyroid tumor in the breast have been diagnosed preoperatively by the concentration of iodine r 31 in the breast tumor.

The concept that there is in nature a remedy for all ills may seem fanciful, but actually there is a good deal which would tend to give it factual stature. I have recently heard of an individual who discovered the cure for some dreadful disease. All that remained to prove his discovery a complete success was for someone to discover the disease for which he had found the cure. Yes, we seem to have come a long way. Our knowledge on the one hand seems vast, but on the other extremely meagre, as is attested by a quotation of Laplace which appears over the doorway of a famous radiation laboratory. "What we know here is very little, but what we are ignorant of is immense." Nevertheless we have come a long way. In the light of modern thought, mind and matter, mind and body, have come to be regarded as differing from each other only to the extent and in such respect as the structural formulae of energy molecules vary. An energy molecule of one pattern would appear as a solid and of another as a thought.

Now aside from a consideration of the ways in which the principles of atomic fission can be applied to medicine's fundamental mission, that of preserving or restoring health to the human race, there is a closely related but distinctly different field in which medicine is faced with a major challenge. I refer, of course, to the matter of dealing with hazards incident to the liberation of atomic energy, whether for military or industrial purposes. When used as a military weapon, of course, hazard or destructiveness is the primary intent of atomic power. The consummation of this intent is, in its most spectacular or cataclysmic sense, realized at the time of the explosion of the bomb and from a medical standpoint takes into account first blast effects either by air, water, or solid, plus burns. The temperature generated by the explosion of an atomic bomb is comparable with that of the sun.

Except for the difference in magnitude, neither the blast nor burn effects of an atomic bomb explosion are notably different from those of an ordinary bomb. The unique hazard in the utilization of atomic energy, regardless of for what purpose it is used, is the production of ionizing radiation, chiefly alpha, beta, and gamma rays and neutrons. These may be produced at the time of fission or later from fission products which are a series of stable and radioactive elements, the latter predominating.

These radio elements are also a source of alpha, beta, and gamma rays. Biologically, the harmful effects of these radiations are due to ionization which is the liberation of free electric charges positive and negative within living cells. The mechanism of injury is not well understood, but with certain very deleterious effects recognized and others of even a more calamitous character, especially along genetic lines, easily conceivable, the radiation hazards of atomic energy take on an aspect of farther reaching implications than those attendant even upon the terrifically devastating effect of the largest atomic bomb explosion.

I am not a nuclear physicist and will not presume to enter into a discourse upon the finer technological aspects of atomic energy. Suffice it, therefore, to say that alpha, beta, and gamma rays and neutrons differ along lines something like the following:

Alpha emission is almost exclusively due to natural radioactivity of the heaviest elements. The other radiations will be encountered singly or in varying combinations and supplied with greatly differing energies as the result of natural radioactivity; fission of heavy nuclei, radioactivity of unstable fission products, and of isotopes produced in cyclotrons and uranium piles; also in connection with the operation of modern "atom smashing" "equipment."

Alpha particles have a double positive charge, are heavy, and show such poor penetration that they are virtually ineffective as an external skin hazard. However, if an alpha emitter is absorbed into the body, alpha particles can inflict terrible damage, particularly to bone and blood-forming cells; also wherever local deposition is involved, inclusive of the lungs. When deposition in the lungs occurs, it may be carcinogenic.

Beta particles, that is, electrons, are much lighter, have a single negative charge and show more penetration, affecting both skin and underlying tissue. Such effects, although not to be disregarded, are overshadowed by those produced after absorption of beta emitters into the body, as in connection with radioactive isotope administration.

Gamma rays are the most penetrating and are produced in tremendous quantities by an atomic bomb explosion. They have the greatest range and were responsible for the radiation casualties in Japan. They are akin to light and x-ray and are not particulate; in fact, they are identical with the higher voltage x-rays producible at the present time. These penetrating rays may produce ionization within every cell in the body.

Neutrons are produced in the so-called chain reaction of fission. They are neutral particles of considerable more mass than the electron, but owing to the lack of charge and consequent lack of repulsion tend to penetrate well. They ionize chiefly by ejection of protons, which of course, are positively charged. From a biological standpoint they are very dangerous.

For practical protection, concrete and moist earth barriers are amongst the best means of protection against high energy radiations. In other instances, some form of lead shielding is ordinarily in use. Distance is an important factor, due to operation of the law of the inverse square and to absorption in the air. Detection and measuring are chiefly by special ionization chambers, Geiger counters, and photodosimetric methods. By means of selective filtration, adjustments can be made so that only gamma will penetrate or beta gamma, and finally, alpha, beta, gamma.

Neutrons are detectable indirectly by special tubes containing material such as boron from which neutrons produce ionizing particles. Much study and research are directed toward detecting and measuring radioactivity.

Radiation illness is a clinical entity caused primarily by total body radiation with gamma rays and neutrons in the case of the atomic blast. Experimentally it may be produced by gamma rays, neutrons, or x-rays. It is important to distinguish between the exposure of a small portion of the body to a comparatively high dose of ionizing radiation, as is done in clinical x-ray with little or no harmful effects, and irradiation of the whole body, which produces harmful effects upon all organ systems and is evidenced by profound blood changes.

The severity of radiation illness depends upon the amount of radiation received. When the dosage is overwhelming, that is, thousands of r, shock-like symptoms develop in a few hours, with death occurring in twenty-four hours, or less. The characteristic pathologic finding is karyorrhexis. With a dose of 500 to 1,000 r, symptoms may be delayed for one to two days, death resulting in from one to three weeks, due to a generalized hemorrhagic diathesis and secondary infection. Within the lethal dose range of from 200–500 r, there is also hemorrhage and increased susceptibility to infection. Survival is much longer, and those who live for thirty days usually recover. A dose well below this lethal range is apt to result in mild symptoms, from which recovery is rapid and apparently complete.

The most dramatic gross pathologic finding within the lethal dose range in radiation illness is generalized purpura and hemorrhages which spare no organ and are associated with increased capillary fragility, thrombopenia, and, in the later stages, incoagulable blood. The coagulation defect results from a circulating anticoagulant tentatively identified as heparin.

The most sensitive biologic index of exposure to radiation are the changes in the circulating white blood corpuscles. Immediately after exposure to a sublethal dose of radiation, an increase in the number of white cells occurs as a result of mobilization of leucocytic reserves and attains its maximum within twelve hours. Following this, there is a rapid decrease of all white cells, lymphocytes reaching a minimum in three days and granulocytes in about five days. Recovery of lymphocytes is more rapid than the granulocytes, both returning to the normal range within about thirty days. In some instances, however, recovery is indefinitely delayed. For example, after one year, a few Bikini animals were still within 50 per cent of normal white blood count.

Initially, there is no effect upon the red blood cells except in the case of the higher dose ranges where hemal concentration is proportional to the fluid loss from vomiting, diarrhea, or shock. Despite the fact that erythroblastic activity is profoundly disturbed very early following exposure to radiation, there is no significant change in the peripheral red blood cell count for about thirty days, the approximate life span of the erythrocyte. However, a reduction of red blood cells will occur earlier and in proportion to the hemorrhagic diathesis when it occurs. Among the Japanese survivors there has been a return to an approximately normal red blood cell level. However, it is still considered too early to state with certainty which blood dyscrasias may ultimately occur.

There is a definite need for a specific treatment of radiation illness. Where large numbers of individuals are exposed to ionizing radiation, this would greatly reduce the number of casualties. Much research work concerning the nature of this disease is underway, but successful specific therapy is still in the future. Some of the Bikini animals were treated with multiple blood transfusions and penicillin, with moderate success. The rationale for this kind of treatment must be readily apparent. Had the Japanese been able to use these measures, their casualties would have been substantially reduced.

Finally, there are long range genetic effects which must be thoughtfully considered in view of the atomic age now in its "infancy." Popular genetic fears at present tend to be on an immediate and largely exaggerated and inaccurate basis. They relate almost exclusively to possibilities of becoming impotent and sterile (the two terms are often confused) or of producing monstrosities. Fears of impotency are of course baseless. Sterility does occur with substantial dosage, but is usually temporary. Heavy dosage to the pelvis in early pregnancy is more apt to result in miscarriage than monstrosity, though there have been instances where microcephalic idiocy may have been related to heavy radiation of the mother's pelvis in early pregnancy. All of this hardly seems cause for great alarm, but, as a matter of fact, the knowledge of genetics now coming to light does cause serious concern from a long range standpoint. It indicates that ionizing radiation is cumulative in its effects and notably increases mutations. Nearly all mutations experimentally produced appear to be unfavorable and most often result in weakening of some vital biological function rather than in anything spectacular. They are mostly recessive, and are not likely to show in the next generation and may not show for a good many. However, they will show eventually and often in an obscure manner. Since modern medical science enables more and more genetically handicapped people to survive to reproductive years, deleterious mutations increase. It becomes therefore doubtful that any considerable increase in mutations such as may result from widespread indiscriminate exposure to ionizing radiation can well be tolerated by the human race; it appears already to be burdened with many many unfavorable recessive mutations.

It should be realized that radioactive substances may be utilized as a weapon of war entirely apart from the atomic bomb. These substances may be used to dangerously contaminate military objectives by any of the well known means of delivery. Thus it would be possible to contaminate housing, food, or water, depending upon the technique used.

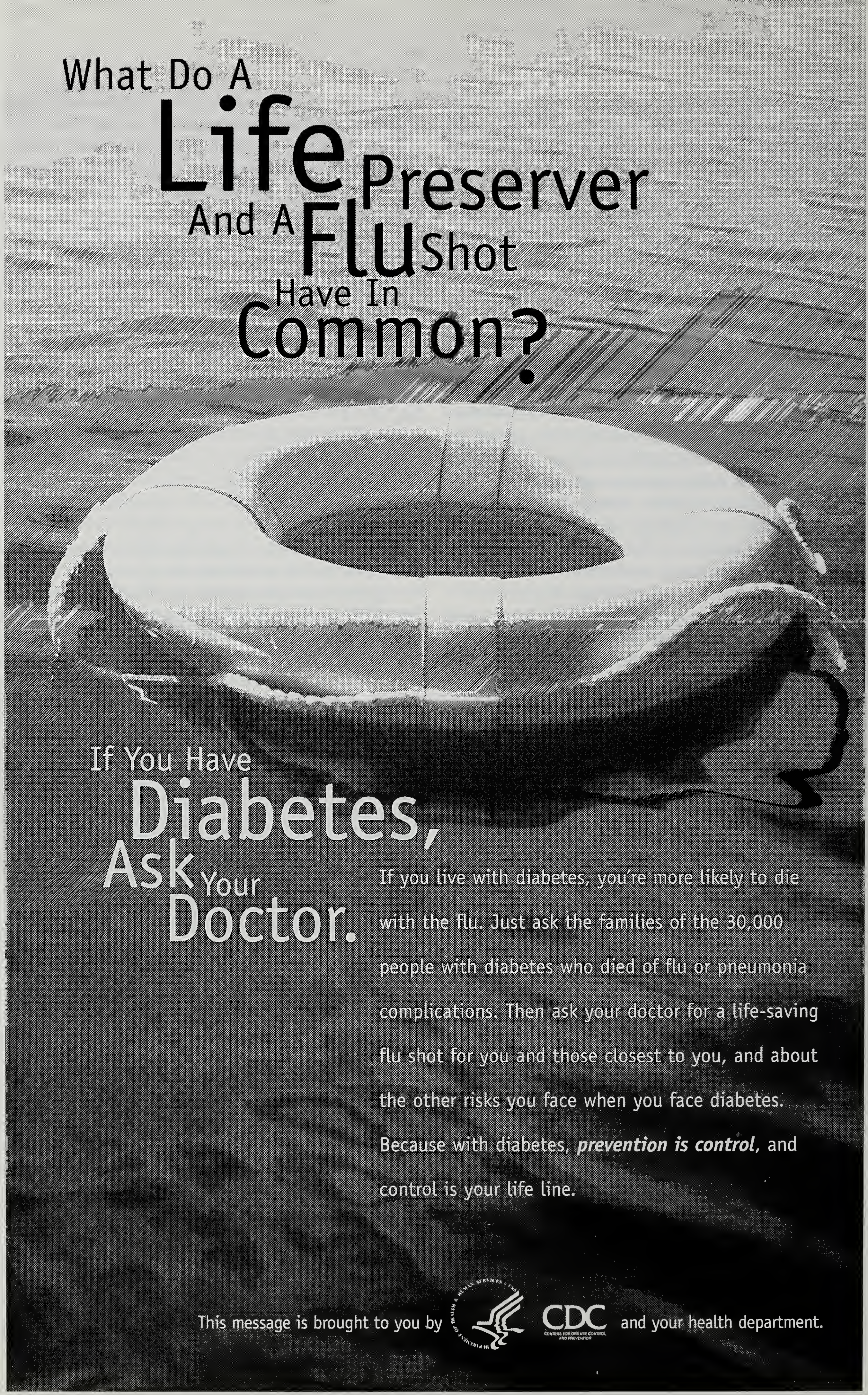
Contaminated areas will become uninhabitable for long periods of time, depending upon the radioactive substances used. Part will be quickly removed by natural means such as rainfall, but a heavily contaminated area may remain uninhabitable for years, even though limited access will be possible under proper safeguards.

The production of atomic energy in power plants is likewise associated with radiation hazards. The fission of uranium 235 or plutonium in a pile results in the liberation of gamma rays and neutrons and the formation of fission products. The hazards to personnel are largely from gamma rays and neutrons. Where weight considerations are not of the utmost importance, adequate shielding may be supplied. However, this becomes more difficult in the case of planes and submarines.

How well aware the Navy is of the elaborate health precautions that must be taken in the presence of fission products is borne out by the fact that among some 40,000 men who were in the Bikini area during the "Cross Roads" explosions in 1946, there was not a single case of radiation injury. And this, despite an enormous amount of rather close contact with extremely intensive sources of radiation, shows well that there was a good understanding of these hazards and ways of recognizing and avoiding them.

Under the stimulus of necessity which has twice in one generation had the added impetus of war, the twentieth century renaissance has become appalling in its effulgence. The death-ray, for a time regarded as a myth or a figment of fancy of comic strip creators, would appear to have become virtually a reality. In the last half-century we have seen this nation and its civilization metamorphose from a state in many respects little different from that which prevailed in colonial days, and in most respects no different from that which existed at the close of our Civil War, to a state so phenomenal as indeed to constitute a seeming justification for worry and wonderment on the part of thoughtful observers, lest it overdo itself and like a thing, a hot house plant, if you please, which has grown too fast to allow for mature development, fall a victim and die of a blight against which it has had insufficient time to have acquired an immunity. Another alarmist view would have it that we are as monkeys fooling with a package of dynamite and by and bye,—bye-bye. I don't go overboard for either of these notions, but in this age when we behold the bewildering advances in the fields of science, an awareness of the observation of Dr. DaCosta that the dream of many yesterdays is the probability of today, and will be the realization of some not far away tomorrow, must give us pause. And when we hear the convincing concepts of our finest scholars and thinkers with regard to the close relationship between, if not the identity of mind and matter, and indeed the veritable sameness of energy and matter, we are constrained to harken back one hundred years to Concord, where with the shades of Emerson, the transcendentalist, we may well consider how "nigh is grandeur unto our dust"—how "near is God to man."

What Do A Life Preserver And A Flu Shot Have In Common?



If You Have Diabetes, Ask Your Doctor.

If you live with diabetes, you're more likely to die with the flu. Just ask the families of the 30,000 people with diabetes who died of flu or pneumonia complications. Then ask your doctor for a life-saving flu shot for you and those closest to you, and about the other risks you face when you face diabetes. Because with diabetes, ***prevention is control***, and control is your life line.

This message is brought to you by CDC and your health department.

"I Shall Please"

I find it interesting, if not a bit paradoxical, that in our current culture, amidst the boom of managed care and the commercialization of high-tech, high quality medicine, we are witnessing the simultaneous rise of something called complementary/alternative medicine (CAM). On first blush many physicians conjure visions of patients trundling off to consume large doses of kelp, ginkgo biloba, and other herbals on the advice of nonprofessionals driven by the profit motive. They point to CAT scans and PET scans, MRIs and computerized imaging, to powerful antibiotics and antivirals and chemotherapeutic agents against all forms of cancer, to mini-invasive surgery in all parts of the body, transplantation, and intra-uterine surgery, all of it becoming evidence-based. Next to these "miracles" of modern science they give alternative medicine a loud and resounding "humbug."

But wait. After first blush, a whole contingent of physicians hear from their patients and from critics in the media that doctors of late are cutting back on person-to-person discussion, showing less empathy and compassion, scrimping on pain control, infusing less humanism into their interactions with patients, and in general abandoning the traditional holistic approach to the sick and the not so sick. It is said that people are turning to alternative practitioners in a quest to be regarded as a whole person, not as the possessor of an organ-specific, or a collection of many organ-specific diseases. These alternative practitioners offer support and encouragement, often under the rubric of touch therapy, spiritual healing, biofeedback, hypnotherapy, or meditation, and are particularly attentive to the mind-body axis in seeking the origin of, and the relief of illness. Taking up the middle ground are such evolving fields as psychoneuroimmunology, and the term "integrative medicine," connoting a blend of complementary approaches with allopathic medicine. A subscription publication is now received at the journal offices entitled "The Integrative Medicine Consult: The Essential Guide to Integrating Conventional and Complementary Medicine."[1]

Seeking a position in this discussion, I surveyed my own library, a collection of books acquired over a 40 year span. I found that most of my medical and surgical texts and monographs had been discarded or relegated to the garage or the basement, out of sight and out of mind, awaiting their ultimate fate. They had served me well, helped to secure for me a place in this noble profession, but the information they conveyed and the guidance they imparted for the care of patients had long since been supplanted by new data and new advice. The shelves close at hand remain full, though, just as when the texts were there, but they are filled now, I soon realized, with books on more lasting, even everlasting, subjects.

These books, within easy reach on any day or evening, are not filled with data. They do not offer a replacement for a scientific command of medicine. I do believe, though, that their collective message is equally pertinent for the physician in the practice of medicine. I found Osler's *Aequanimitas* (1932), Albert Schweitzer's *Pilgrimage to Humanity* (1961), *The Doctor Stories of William Carlos Williams* compiled by Robert Coles, Richard Selzer's *Mortal Lessons* (1974) and *Letters to a Young Doctor* (1982), *How We Die* (1994) by Sherwin Nuland, *The Nature of Suffering* (1991) by Eric Cassell, *The Patient's Ordeal* (1994), by William May, *Empathy and the Practice of Medicine*, edited by Howard Spiro and his colleagues, and Norman Cousins' *Anatomy of an Illness* (1979). I even found the Bill Moyers collection, drawn from his television series, entitled *Healing and the Mind* (1993). Written on the flyleaf was this message from a 1993 graduate of the surgical residency: "To a mentor, colleague and friend whose caring influence will always be remembered, whose warm friendship always cherished. May this book return to you some of the kind and loving concepts of patient care that you taught and shared with me." It did.

Only two shelves scanned and already I was sensing that it would be hypocritical of me to express anything but praise for CAM. Then I recalled an episode involving a revered former chief of surgery, Jack Reed, who responded to surgical house staff complaints about "scut work," especially admission histories and physicals. His line was, "A history and physical is not scut work—it is medicine." Perhaps it is not too much of a stretch of analogy for us to say about the collection of humanistic writings noted above that they are not complementary or alternative—they are reflections on the very heart of medicine.

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The Presidential Address to The New England Surgical Society 10 years ago was given by James Foster. His title was, *Some Eastern Thoughts for Northeastern Surgeons* inspired at least in part by his travels to the Far East, and exposure to non-Western philosophies on life (and death). From my well-worn copy, I quote:

> I do believe there is a timeless central core to the practice of medicine and surgery, a core of extrascientific knowledge, art, and wisdom that deserves more attention than it gets in the West today. Our attentions have been so distracted and warped by our constant bombardments of a market- and media-driven technology-oriented culture that we have confused our priorities.

Later, he continued,

> If we neglect the one-on-one personal relationship between patient and physician that is the permanent core of medicine, our profession will die. If we preserve that core, even though the technologies, economics, and politics may be everchanging and swirl around us, we shall be safe and happy and can continue to be proud of our esteemed role in this society of man.[2]

Those words were spoken long before managed care and its "efficiencies" peaked in Connecticut. Were they heeded, or are we deferring to others the dispensing of a weaker, less professional brand of caring, empathy, compassion, and relief of suffering? Who can say? Margaret Talbot has her say in a *NewYork Times Magazine* piece on 9 January 2000 entitled, "Placebos Work! So Why Not Use Them as Medicine." I plan to save it, not for its consideration of dispensing placebo pills as therapy but for its characterization of the physician as a "walking placebo." Here are two excerpts:

> In the postwar era, with the triumph of the biomedical model and the proliferation of drugs and techniques that did successfully extend life, many doctors would just as soon have forgotten about the placebo (Latin for *I shall please*) effect altogether. ... But what if doctors firmly in the fold of evidence-based medicine were not so circumspect about offering magic, hope, and comfort? What if they did resort more often to tonics or their equivalent—to the old fashioned squeezing of the hand and the slightly unrealistic imparting of hope that is now frowned upon as a bit too authoritarian and paternalistic?

What if? If we heed the advice and honor the centuries of tradition that got us where we are, we will strive to keep a balance between evidence-based scientific medicine and an acknowledgement of the power of the resilient human spirit. Connecticut physicians must declare that in the mainstream of medical practice we continue to offer much to enhance the power of that spirit. If it can be shown that alternative therapies are additive to that enhancement, then we should hear no "humbug."

H. David Crombie, M.D.
Editor

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CALL FOR PAPERS

Members of the Connecticut State Medical Society reading papers before other organizations are invited to submit their papers to the *Journal* for consideration. Authors preparing manuscripts for submission to *Connecticut Medicine* should consult **Information for Authors**. This is published in most issues of *Connecticut Medicine* or may be obtained from the *Journal* office. Adherence to the instructions will prevent delays both in acceptance and in publication. Papers prepared on a word processor should be submitted on a diskette along with the hard copy.

Please send them to:
H. David Crombie, M.D., Editor
Connecticut Medicine, 160 St. Ronan Street, New Haven, CT 06511

Politics, Hobgoblins, and the House of Medicine

> "The whole aim of practical politics is to keep the populace alarmed (and hence clamorous to be led to safety) by menacing it with an endless series of hobgoblins, all of them imaginary."—H. L. Mencken

Mr. Mencken had it right, and his wisdom persists to this day. But rarely do we see a more stunning exhibition of his sagacity than we did in the closing months of 1999.

First we were informed, by no less an august body than the Institute of Medicine, that American hospitals kill between 48,000 and 98,000 patients a year. Indeed, we were told in the most graphic of terms, that more people die in any given year because of hospital errors than die of a combination of disasters including automobile accidents, suicides, and a host of other horrors!

No sooner had the IOM spoken, then our President appeared on television, and pronounced the findings "unacceptable." Close behind him was Senator Ted Kennedy, another perennial medical doomsday savior with ready-to-go legislation that addressed precisely this newly discovered problem. It was as if he had known about the problem, or at least it's impending discovery (perhaps "creation" would be a better term) for months, if not years, before the announcement.

The aforementioned media events were rapidly followed by the emergence of not just one, but TWO foundations already designed and prefabricated to address precisely this problem! They were nonprofit of course, and therefore presumably instantly deserving of our trust, no matter how questionable the nature of their conception (much less their parentage) may have been. One of them was, of course, a government-sponsored but nonetheless "independent" foundation. The other had some sort of affiliation with the AMA and seemed to be a prepackaged "reactor foundation" as it were, complete with "more private sector options." But both foundations sounded uncannily reminiscent of the defunct Clinton Health Plan's "Standards Commission."

Fortunately, no politician came forth with a solution based upon the highly evolved, if somewhat convoluted, logic of this past year's gun-control debate. If that had happened, we would certainly be facing legislation demanding the immediate closure and banning of all hospital facilities in the United States in order to prevent these unnecessary deaths! Indeed, such a proposal would have the salutary secondary advantage of saving Medicare for all eternity! How did legislators resist such a politically perfect solution?

No sooner did the hysteria of the hospital deaths debate die down than the Surgeon General of the United States appeared, front and center, telling us that fully 20% of the citizens of this country suffer, at one time or another, from mental illness that would need some treatment. Now that was an astounding assertion!

The truth is, however, that I heard in the Surgeon General's announcement a *sub rosa* call for yet another health insurance mandate. Here in Connecticut, at last count, we have accumulated 43 such state mandates. In Connecticut, postmenopausal women with health insurance have to pay for the birth control pills of promiscuous adolescents. And all of us who are insured are required to pay for treatment of illegal drug abuse, while treatment for smoking cessation, a perfectly legal and tax-generating activity, is not mandated despite the financial bonanza that the tobacco litigation recently brought to Connecticut! In short, while no one gets the opportunity to tailor their health insurance to meet their own needs any more, we all get to pay for political mandates forced upon us. Now, I suspect, mandate-mania is about to expand at the federal level as well!

And I suspect that not only mandate-mania, but other medical hobgoblins of every size, shape, and horror will appear on the horizon over the next several months. Why? Because the year is divisible by four! 'Tis the election season, although that season never seems to leave us any more. And the medical profession will be suckered into "debating" and "answering" all of the ridiculous charges, countercharges, and claims that will be made by politically prescient but

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medically unknowing candidates—charges that will be put forth to convince a totally panicked public that unless they elect candidate A to position X, they are in imminent danger of madness, death, or even worse, the administration of an unauthorized treatment by a potentially fraud-committing physician!

No politician will bear witness any more to the concepts of republic, of federalism, or to the importance of the sovereignty of the several states. No recognition will be given to the purpose of the separation of powers as established by our Constitution. No one will recognize or admit that much of the genius of our form of government lies in the way that it was designed to force logjams and gridlock upon us in most issues, and to prevent legislative action except in the most important of circumstances.

Our federal government was not created to decide who gets what treatment, and for how long. It was not designed to say how long victims of X disease stay in the hospital! The very structure of the federal government was supposed to make it impossible to legislate such trivia! And political compromise was promoted only for the resolution of issues of the highest priority for the survival of the Union. Compromise was not meant to be used for trifling issues that should not even be addressed at the federal level! And it certainly was not meant for medical hobgoblins conjured up by vote-seeking politicians.

Yet in past years the House of Medicine has too often been drawn into precisely such no-win debate and compromise. My suggestion is that this year, the House of Medicine should stay home and honor Mr. Mencken's observation by hanging a string of garlic over its threshold. That will serve, as well as anything could, to keep the hobgoblins of medical panic, fear, and nonsense at bay. We should not venture out to engage in debate that is premised on politically motivated research. We should not answer politically motivated charges and half-truths except where they truly defame and misinform. And we should never honor political blather with response, except where it is dangerous to the public.

Rather, we should limit our discourse to protecting the quality and integrity of the care that our patients receive, and to preventing the promotion of quackery and cultic treatments as "cost-effective alternatives." We should oppose the politically motivated replacement of physicians with minimally trained generic substitutes. And we should continuously and endlessly point out the rapidly growing inadequacies of medical care in the so-called "social democracies," where politicians have been allowed to replace physicians in matters of medical judgment, usually to the extreme detriment of patient care in those countries.

And so I invite you to hang out some garlic and hold your nose, for the silly season is upon us. Yet once more, Mencken's hobgoblins roam the land. Beware!

> "If what I tried before won't work, maybe we can do it another way.
> That's what we've tried to do, a step at a time, until we eventually finish this."
>
> —William J. Clinton, discussing health-care reform in a speech to the
> Service Employees International Union, 15 September 1997.

Stephen R. Katz, M.D.
President

REFLECTIONS ON MEDICINE

How Much Care Is Good for Us? Surely There Are Limits!

ROBERT U. MASSEY, M.D.

WHILE looking up an article in *JAMA* from a year ago, I encountered "Unintended Consequences of More Health Care,"[1] which I had overlooked or forgotten. A graph in the article illustrating the law of diminishing returns reminded me of a conversation years ago with Ralph Reinfrank, then head of medicine at Hartford Hospital. We were talking about recent developments in medicine, and he remarked that in his view the escalating transfer of new technologies from research labs into clinical medicine has resulted in increasingly smaller benefits at ever higher cost; soon such "progress" might cause more harm than good. Fisher and Welch, the authors of the *JAMA* article, observed that adding inputs to medical care (physicians and dollars) improve care up to a point; the curve then flattens and finally descends; additional inputs lead to declining benefits, the Law of Diminishing Returns.

The authors presented a table showing that per capita expenditures for hospital care increased from $667 in 1975 to $1,331 in 1995 (in 1995 dollars); physician services per capita from $304 to $767; and total health-care costs per capita from $1,454 to $3,344—a 2.3-fold real increase in two decades. Physicians per 100,000 persons jumped from 156 to 238, with the largest increases in cardiologists and radiologists. The authors then show how more diagnoses and increasing interventions lead to more tampering, the emergence of pseudodiseases, more mistakes, and adverse events. One example, much in the news lately: the prescription of stimulants to children with presumed attention deficit syndrome increased from 300,000 to 2.4 million!

During this campaign year we shall hear ways to "fix" the health-care system, but hardly a word about health care itself. Once again I quote my favorite physician- essayist whose views on these matters we so often shared, Lewis Thomas:

> … I know a professor of pediatrics who has received visits from intelligent, well-educated parents who only want to know if their child should start Sunday school.
>
> The system is being overused, swamped by expectant overdemands for services that are frequently trivial or unproductive. The public is not sufficiently informed of the facts about things that medicine can and cannot accomplish. Medicine is surely not in possession of special wisdom about how to live a life.
>
> It needs to be said more often that human beings are fundamentally tough, resilient animals, marvelously made, most of the time capable of getting along quite well on their own.[2]

And that was before the days of managed care! Correcting the problem of overused medical care, now for many essentially "free," cannot be accomplished by politicians. It calls for a cultural renewal, a willingness to use the system only "when it is really needed and when it has something of genuine value to offer."[2]

Even conservative politicians survive only by promising more. The HMO fiasco was designed to produce huge insurance industry profits while blocking an unrealistic government proposal for universal care. HMOs did hold cost-increase percentages to single digits for a while, but they give no solution for the long run. A government-financed program like Canada's or Britain's or Germany's (each different) would neither be accepted in our culture of intense individualism nor proposed by a Congress deeply in debt to the insurance industry.

But some combination of market controls and universal coverage might work. Employers who presently provide health insurance might simply return that money to their employees as salary. Employees would be urged to buy private health insurance or open medical savings accounts. For those with incomes below some reasonable level, vouchers for health insurance with a sliding copay would be provided. No one would be turned down, but few would get off scot-free either. Then let us by all available means educate our fellow citizens that medical care is useful only "when it has something of genuine value to offer."

Then we can figure out how many new physicians are required for a growing and aging population and limit first postgraduate year positions to that number, no exceptions!

ROBERT U. MASSEY, M.D., Professor Emeritus, Division of Humanistic Studies, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington.

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This Month's Reading in Review

TIMOTHY B. NORBECK

For Those Who Have Everything

In a unique marketing move, Minneapolis' Abbott Northwestern Hospital sold gift certificates over the past holiday season for $495 electron-beam CT scans, which screen for early signs of heart disease and lung cancer.... Critics complained that offering scans as gifts degrades the importance "of a serious" test intended for a select group of patients.... But Abbott officials (who had sold only one gift certificate as of December 21) said they will only sell the scans for patients in the right age and risk groups—and it comes with a money-back guarantee.

Minneapolis Star Tribune (22 December 1999)

No Good Deed Goes Unpunished

Deborah Heart and Lung Center (Browns Mills, New Jersey) is a throwback to an era when many hospitals saw themselves as charities.... Its motto is: "There should be no price tag on life," and it won't send a bill for care to any patient, rich or poor.... At a time when care is costly, when many hospitals are riveted on the bottom line and when millions of Americans are uninsured and struggling to find care, Deborah's free service would seem to be a godsend.... But Health and Human Services (HHS) says that Deborah, because it accepts Medicare without requiring patient copayments, is in potential violation of an array of civil and criminal laws.... HHS is currently trying to decide what to do about it.

Wall Street Journal (5 January 2000*)*

"Due to cost constraints, the light at the end of the tunnel will be turned off. But the floggings will continue until morale improves."

Unidentified employee at Kaiser, Internet
(10 January 2000)

Oops!

A printing company was recently completing its order for 101 million "Grand Canyon, Colorado" postage stamps when someone raised an important question: "Hey, isn't the Grand Canyon in Arizona?" ... The stamps won't be released.

From the *Arizona Republic* in *Parade* Magazine
(26 December 1999)

"Linda Ross, a family law attorney in Southern California, is listed in the Yellow Pages, but under 'Reptiles'... Ross says her mother 'laughed for 10 minutes' when she heard about the gaffe in the GTE telephone directory, but is 'concerned about what the people who don't know me might think' and worries that the listing might 'confirm what they already believe about attorneys.'... Might?"

Associated Press (17 January 2000)

With Harvard Pilgrim HealthCare going into receivership ($177 million in debt) in early January, Massachusetts becomes the only state in the country where the largest insurer is in such a precarious position.... The Bay State is also the only state where three of the largest four plans are in the red.... Some industry analysts are starting to blame the commonwealth's heavy reliance on not-for-profit insurers—suggesting that "when you have competitors that are all nonprofits, there's no one with a strong pricing backbone. You can all underprice."

Wall Street Journal (12 January 2000)

House Majority Leader Dick Armey (R-TX) announced on January 13th at a health forum that Congress will pass a patients' bill of rights this spring and send it to President Clinton by April 23rd.... Armey is proposing that the final bill restrict the right-to-sue provision to federal courts only, where juries are "less likely" to award huge damages....He said he also wants the final version to include a tax deduction for people paying at least 50% of their own health insurance premiums and provisions for the creation of medical savings accounts.

New York Times (14 January 2000)

Only in America

Last September multimillionaire developer Abe Hirschfeld stood trial in New York on tax-fraud charges. After jurors pronounced themselves deadlocked, Hirschfeld handed each of them a check for $2,500. Two or three said no. A few agonized but pocketed the checks anyway. Others simply took the money. There is nothing illegal about a payment made after a trial. Still, Hirschfeld faces another trial, in which he's charged with hiring a hit man to kill a business partner. Did the handout, however legal, amount to tampering with future juries? "I didn't think of it that way," Hirschfeld insists. "The money was intended not as a reward to the jurors," he said, "but rather as good will compensation for their time and effort. I would have done the same thing if they had found me guilty." Maybe, but the payments have left a bad odor. "If Hirschfeld can do this, then organized crime can do it even more effectively," said Stephen Gillers, a professor of legal ethics at New York University.

Reader's Digest (December 1999)

TIMOTHY B. NORBECK, Executive Director, Connecticut State Medical Society, New Haven.

Letters to the Editor

Letters to the Editor are considered for publication (subject to editing and abridgement), provided that they are submitted in duplicate, signed by all authors, typewritten in double spacing, and do not exceed 1-1/2 pages of text (excluding references). They should not duplicate similar material being submitted or published elsewhere. Letters referring to a recent Journal article should be received within six weeks of the article's publication.

Unfair Trade Practices

Letter to the Editor: Today a 40-year-old nurse sat before me, wringing her hands in disbelief. Her hands have been numb and painful for two years—now to the point where she can no longer do up her hair in the morning. She has tried splints and medication to no avail. Scheduled to have wrist surgery to relieve the pressure on the nerve to her hand within a few days, we were notified today that her HMO had denied her surgery. In spite of a busy office, I called the HMO, endured the ordeal of climbing their phone tree, withstood the delay as a clerk casually pulled her file, and then, after detailing the necessity of the operation, I was advised, "I'm only a clerk. I will submit the case for appeal and you will be notified within 30 days."

Why put up with this?

Managed care insurers have successfully forced physicians into signing one-sided contracts which often violate the professional and ethical standards to which we have always been held. If doctors don't sign, they stand to lose a large block of their patients and possibly to face insolvency. Should the doctors organize in any way to defend their patients or to negotiate better contracts, they are met with the wrath of the Justice Department and the antitrust cops. In Orwellian tradition, the Federal Trade Commission poses the greatest obstacle for physicians seeking relief from the insurers' unfair trade practices.

These contracts are the key, for these are the vehicles by which managed care insurers have gained the "right" to deny care, to promote the "least expensive option," and to unfairly reimburse physicians with an arbitrary and ever-declining schedule. These so-called contracts permit them to discourage appropriate specialist care with perverse financial incentives. They drive a wedge between the patient and the doctor he trusts with administrative and financial priorities. These are the contracts that force doctors to see higher volumes of patients in less time. Some advocate capitation schemes whereby physicians are paid *not* to see patients, while others feature "deselecting" (firing) physician providers without cause. They have forced us to sign "hold harmless" clauses such that we have to assume the liability for their decisions, and to endorse other codicils that permit them to unilaterally modify the terms of the contract without negotiation or even notification.

On 1 November 1999 ConnectiCare, a large HMO, annonunced that 33 physicians in the Northwest Medical Group (Litchfield County) were being "deselected" because the physicians refused to accept ConnectiCare's "take it or leave it" contract. The HMO contended that the doctors were not managing their spending well enough, when in fact the doctors were only trying to protest the HMOs direction as to which drugs they could and could not prescribe. (None of the other carriers with whom those doctors deal felt the consortium was overspending.) It was estimated that as many as 9,000 Litchfield resident subscribers would have to change their primary care doctor. Connecticut State Attorney General Richard Blumenthal is looking into this catastrophe.

Recently United Health Group, one of the nation's largest managed care insurers, captured national attention when they declared that they were no longer going to make medical decisions for their subscribers, but that from now on they would let the doctors make all the decisions. This was neither enlightenment nor altruism. The move was nothing more than a preemptive strike against the rising tide of litigation against managed care insurers for allowing nonmedical people to make medical decisions. Nothing is changed—the contracts will remain the same, and any lost revenues from doctors' "overspending" will be quickly converted into higher premiums and lower reimbursements.

The Connecticut State Medical Society's IPA has sued Physicans Health Services, Connecticut's largest HMO, charging "illegal, immoral, unethical, and oppressive conduct" in violation of the Connecticut State Unfair Trade Practices Act. The suit goes on to claim, "PHS continues to systematically disregard its obligation to its physician providers ..." The Connecticut State Orthopedic Society, through its Board, filed a class action suit against Anthem Blue Cross Blue Shield in behalf of all the physicians in the state for unfair trade practices specifically having to do with contract law.

Our sense is that if we do not check the predatory agenda of our managed care insurers now, there will be no end in sight.

Ronald Ripps, M.D.
Danbury
Published in the News Times *on*
21 November 1999

Protecting Medicine's Professionalism

Letter to the Editor: A recent front page article in the January 2nd issue of the *New York Times,* "Under Legal Attack, HMOs Face a Supreme Court Test," reported that HMOs' use of financial incentives for physicians to hold costs down may be illegal. Lawyers are asserting that if HMOs encourage physicians to order fewer tests and consultations in order to increase their bonuses, then physicians have a serious conflict of interest in caring for patients. The lawyers also assert that with incentives, HMOs are in serious violation of ERISA, a federal law which requires them to act in the best interests of their patients. The case will go to the Supreme Court in February.

This matter of financial incentives was discussed at the November 1997 House of Delegates meeting of the Connecticut State Medical Society long before it became an issue to be resolved by the Supreme Court. In fact, at that time, the CSMS passed a resolution denouncing the use of financial incentives by health-care organizations. Yet, in spite of the wisdom and courage of the CSMS in taking a firm stand on this critical issue, there was no effective follow-up. It was never publicized. It was never made a major legislative platform. There was no move to mobilize physician support for it. It never became a local or national rallying point for physicians.

By not following through on the inappropriateness of the idea of financial incentives, medicine lost an opportunity that had tremendous potential to enhance its role as protector of high ideals. We also lost a great opportunity to win the respect of legislators. Apparently, even the AMA overlooked the importance of making the financial incentives a high profile item on its agenda to promote professionalism in medicine.

The inappropriateness of financial incentives should be a platform that all physicians support. Outlawing financial incentives may decrease our incomes—but that may be the best reason for eliminating them! There is no greater opportunity to demonstrate to the public and our legislators that we are willing to place society's interest ahead of our own. Counteracting the economic restrictions that health insurers place upon physicians is important. But protecting medicine's professionalism means paying more attention to noneconomic issues too.

The leadership of the CSMS can take pride in having denounced the use of financial incentives in 1997, long before it became a test issue for the Supreme Court.

Edward J. Volpintesta, M.D.
Delegate, CSMS

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CALL FOR PAPERS

Members of the Connecticut State Medical Society reading papers before other organizations are invited to submit their papers to the *Journal* for consideration. Authors preparing manuscripts for submission to *Connecticut Medicine* should consult **Information for Authors**. This is published in most issues of *Connecticut Medicine* or may be obtained from the *Journal* office. Adherence to the instructions will prevent delays both in acceptance and in publication.

Papers prepared on a word processor should be submitted on a diskette along with the hard copy.

Please send them to:

H. David Crombie, M.D., Editor
Connecticut Medicine
160 St. Ronan Street, New Haven, CT

From the Executive Director's Office

CALL

ANNUAL MEETING OF THE HOUSE OF DELEGATES

10 MAY 2000

The Annual Meeting of the House of Delegates will be held at the Ramada Inn, 275 Research Parkway, Meriden. The meeting will commence at 12:30 P.M. on Wednesday, 10 May 2000 and will continue until all business has been concluded.

Stephen R. Katz, M.D., President
Howard J. Wetstone, M.D., Speaker of the House
Brian Van Linda, M.D., Secretary

11:30	Registration of Delegates
	Luncheon
12:30	Call to Order
	Adjournment at Conclusion of Business
	Reception for the Incoming President

* * *

INTRODUCTION OF RESOLUTIONS

Article V, Section 12, Par. 3 of the Bylaws of the Society provides that:

Resolutions may be introduced by any Active, Life Member, Student Member or Postgraduate Physician Member of The Society, in compliance with the following provisions.

a. *All resolutions, reports and similar items of business submitted in writing and received at the office of the Executive Director not later than thirty days before the date scheduled for that meeting shall be considered as regular business of the House of Delegates.*

b. *Component county associations or the Student Member or Postgraduate Physician Member Associations whose meetings are held later than thirty-five days prior to the date of the House of Delegates shall be allowed five days after the close of such meeting in which to submit resolutions, reports and similar items of business to the Executive Director's office and still have such material considered as regular business. In no event, however, may such resolutions, etc., be considered regular business if they are received later than fifteen days prior to the date of the meeting.*

c. *Reports, recommendations, resolutions or other new business may be presented to the House of Delegates by the Council of the Society at any time and shall be considered as regular business.*

d. *Any business which does not qualify as regular business in accordance with the foregoing provisions may be accepted for consideration by a majority vote of the delegates present and shall be referred at once by the Speaker to a reference committee. When business is introduced under the provisions of this paragraph the vote shall be taken without debate, except that the introducer shall be allowed not more than two minutes to explain why it should be considered as regular business.*

* * *

Around the State

Thanks to the CT Cooperative Actions for Health Program (CAHP) grant from the Robert Wood Johnson Foundation, Connecticut hospitals now have a "best practices" reference binder to help them comply with a recent Connecticut law requiring substance abuse screening for injury patients. The binder was developed by the Connecticut Public Health Association (CPHA) and the Connecticut State Medical Society (CSMS) as a part of a $15,000 one-year grant joint project on medicine and public health that ended in October.

"I feel that the project made a positive difference in the implementation of the hospital screening law," said Kathi Traugh, CPHA Project Director, and Executive Director of CPHA. According to Robert Brunell, CSMS Director of Scientific Affairs, the CAHP grants were designed to foster collaboration between physicians and public health professionals, and AMA and APHA officials made a site visit to CPHA and CSMS on behalf of the Robert Wood Johnson Foundation last summer.

In addition to the reference binder, hospitals received a training video on counseling patients with alcohol problems and a sample protocol on substance abuse screening that could be used to comply with the legislative mandate. The CAHP project cosponsored a meeting in July with the CT Hospital Association for hospital administrators called "Best Practices in Hospital-Based Substance Abuse Screening." Most of the state's 31 acute care hospitals were represented at the meeting.

Project staff Kathi Traugh and Mary Nescott presented the CT CAHP project at the American Public Health Association's 1999 annual meeting in Chicago. Although the grant has ended, CPHA plans to continue working with CSMS and other professional organizations on related issues, such as the development of model continuing education standards for health professionals in substance abuse screening. CSMS and CPHA would like to thank the many individuals who provided support and other assistance to the project, including Mark Kraus, M.D., chairman of the CSMS Committee on Alcohol and Other Drug Dependency Education, and CPHA member Linda Degutis, R.N., Dr.PH, of the Yale School of Medicine, Department of Surgery.

The Robert U. Massey History of Medicine Society

Upcoming Schedule of Presentations

8 March 2000

Susan Lederer, Ph.D.,
Associate Professor,
History of Medicine Division,
Yale University School of Medicine

History of Organ Transplantation Before WWII

12 April 2000

Richard Melchreit, M.D.,
Medical Associate, Aids Prevention Section,
Department of Public Health,
State of Connecticut

History of HIV Infection, 1990 to the Present

The Robert U. Massey History of Medicine Society is an association of individuals interested in presentations and discussions on the history of medicine. The society seeks to foster an understanding of medicine's history and an appreciation for the cultural and social settings in which medical developments have taken place. The society also seeks to encourage health sciences students to acquire an appreciation for their historical heritage.

The society is affiliated with the University of Connecticut Health Center and is open to those who have an interest in the history of medicine. A roster of members is maintained in the Department of Community Medicine and Health Care. Those who wish to be included on the membership roster should notify this department to be included on the mailing list for society lectures. The willingness of members to present lectures or recommend speakers contributes to the society's ability to maintain community interest and to attract new members.

The society meets the 2nd Wednesday of the month at 5 P.M. in Lecture Room A of the University of Connecticut Health Center. *For further information:* Theo Ungewitter, Department of Community Medicine, University of Connecticut School of Medicine, 263 Farmington Avenue, Farmington, CT 06030-1910; (860) 679-2356; *email:* ungewitter@nso.uchc.edu

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BOOK REVIEW

Felix d'Herelle and the Origins of Molecular Biology
by William C. Summers, M.D.
Yale University Press, New Haven, Connecticut, 1999.
288 pp. $35.00. ISBN 0-300-07127-2

Much of the foundation of the medicine practiced today can be traced to the momentous discoveries of the 50-year period, 1890–1940. During that period, infectious diseases were still the predominant causes of sickness and death. The whole field of microbiology was just unfolding. Dr. Summers has produced a scholarly yet readable biography of one of the contributors to this new science, Felix d'Herelle. This unusual, self-taught man made major contributions to science and mankind first by focusing on the practical application of this new knowledge of microbiology and then by discovering and characterizing what is now known as the first of the mobile genetic elements, the phages. Through scholarly research, fine detail, and clear writing, Dr. Summer recreates for the reader the state of science at the time and some important steps in the advancement of knowledge. Moreover these contributions were made by a self-directed man who, in spite of his accomplishments, was never really accepted by the academic/research establishment.

The book is divided into 11 chapters and a summary. The first chapter, covering the period 1870–1900 introduces d'Herelle and his family, then brings the reader to the end of his formal education, a high school diploma. The next chapters cover the beginning of his professional life, establishing the first general hospital laboratory in Guatemala (1901) and then becoming director of special missions for the government. These missions seemed to set the tone for the rest of his professional life—the practical applications of the new science of microbiology. The first missions were to develop commercial fermentation of bananas and bagasse to make alcohol. Next came the challenge of malaria and the study of fungi damaging the coffee crops of Honduras. Then came the exploitation of the natural enemies of locusts, in essence biological warfare, against locust plagues in Argentina and Algeria. This involved examining dead locusts, isolating and culturing the offending agents, growing the offending agents, and then introducing them into the path of the advancing insects. Today such a course of action would be expected. It was not so in 1919.

The bulk of the book rightly focuses on d'Herelle's greatest contribution to science, the discovery of phages. In 1915 while studying hemorrhagic dysentery in soldiers from the war zone he discovered "invisible microbe antagonists to the dysentery bacillus." What follows recounts the steps and missteps in uncovering the nature of these new agents. Then came the slow process of convincing the scientific community of its validity. Unfortunately the expectations that this new agent would have great clinical applications proved to be unrealistic. The lasting value of his discoveries was to basic science and the opening up of new frontiers in the understanding of life's processes.

This is a readable biography of a self-directed, self-educated pioneer who made significant contributions to science even though he was never fully accepted by the established scientific community. His story should be of special interest to physicians, broadening their knowledge of the origins of some of the knowledge and technology underlying clinical practice today.

Dwight F. Miller, M.D.
Waterbury

Risk Factor
by Charles Atkins, M.D.
St. Martin's Press, New York, A Thomas Dunne Book, 1999. 244 pp. $23.95. ISBN 0-312-20920-7

Dr. Charles Atkins, director of psychiatry at Waterbury Hospital, has written a novel titled *Risk Factor*, a "thriller" that tells the story of Molly Katz, psychiatric resident extraordinaire. Molly, a former nurse, divorced from her husband, and single mother of two adolescent children, decides late in life to go to medical schools and followup with a high-powered psychiatric residency. It seems like a normal residency, with the usual mix of Axis I and Axis II diagnoses, (which Molly explains to the reader), until someone murders a nurse on Molly's ward. The suspicion is immediately on Molly's new adolescent schizophrenic patient who was present at the time of the murder. The lad, who was extremely sick and disorganized, becomes catatonic and unresponsive after the murder. When he is placed in a forensic psychiatric facility, Molly, in spite of being overloaded with work, feels the need to get a job moonlighting at the facility so she can find out what is happening to him and if he really did commit the murder. When another nurse is murdered, we know it can't be that poor disorganized lad and the hunt is on.

Suspicion then focuses on an antisocial teen who was present and we are "taught" about "bad kids" by Molly's wise, articulates and sometimes long-winded supervisor, Dr. William Adler. Finally, in a genuinely tense finale, Molly herself becomes the hunted, (remember, she was a nurse), and we find out, rather too surprisingly, who the real culprit is.

Dr. Atkins feels that his books should not only entertain, but should also educate people. Since he is a psychiatrist and sees many troubled teens, the lesson in *Risk Factor* is ostensibly about teen sociopaths. The education piece is woven throughout the story in the form of case conferences, case histories, office and chart memos, and as previously mentioned, Molly's supervisor, Dr. William Adler.

We do indeed learn a little about troubled teens, attachment theories, nurture *vs* nature, and even hear mention of the old schizophrenogenic mother. We are also subjected to a healthy dose of personality disorders, a few deserving hits at managed care, and a lesson in behavior therapy, as the unsinkable Dr. Katz uses behavioral techniques to get an obsessive compulsive agoraphobic to make a trip to her office. Included in the lessons is what goes on at a case conference when your patient allegedly kills somebody. Actually Molly, for some reason, gets off quite easy considering the circumstances. We don't feel the cold terror of accusation tingling down her spine (what a civilized residency!).

I have never thought about being taught by a novel, but I guess it happens all of the time. Michel Crichton taught us all about dinosaurs in "Jurassic Park" and Caleb Carr certainly illuminated New York City during the Teddy Roosevelt reign. Most fiction has lessons embedded in it, in subtle ways, so you do not realize you are being taught, but when you finish reading you end up being wiser and more informed. Dr. Atkins' book was not subtle in this respect. Parts of it felt like I was back in my psychiatric residency. It actually could be a good board review. And there was *so much* education to absorb. An editor once told me a book should have only one or two good ideas, repeated over and over. If I was overwhelmed by the sheer amount and complexity of the information, how would the nonprofessional reader react?

I found the pedantic aspect of this book distracting to the flow of the novel, and only when the "lectures" subsided was I able to become involved in the story. I feel if I really want to be educated, I'll read a textbook, or a "for the public medical book," like Peter Kramer's "Listening to Prozac," or Oliver Sachs "The Man Who Mistook His Wife for a Hat." I want my fiction to primarily entertain not educate me. If it tries to do both, then neither one is served well.

Writing a novel and developing characters is difficult. Dr. Atkins has done a good job making Molly Katz come to life. I even suffered some negative transference toward her. My supervisor used to fall asleep when I presented my cases not spout real gems of information. But I would like to meet Molly unhampered by the need to teach me all about psychiatry. After all, it's just a little book.

Barbara Edelstein, M.D.
West Hartford

IN MEMORIAM

D'ESOPO, JOSEPH M., McGill University Faculty of Medicine, Montreal, 1931. Prior to his retirement, Dr. D'Esopo, a pulmonologist, maintained a private practice in New Haven and served as associate professor of thoracic medicine at the Yale University School of Medicine and The Hospital of St. Raphael. He was a member of the New Haven County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. D'Esopo died 27 December 1999 at the age of 96.

GOLDFARB, JERRY, University of Texas Southwestern Medical School, 1950. Dr. Goldfarb began his practice of medicine in Stamford in 1954 retiring in 1986. He was a clinical assistant professor of medicine at New York Medical College. He served as Stamford Hospital's associate physician-in-chief from 1968 to 1969. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Goldfarb died 29 December 1999 at the age of 78.

KAUNITZ, PAUL EHRLICH, New York University School of Medicine, 1938. Dr. Kaunitz was a professor of clinical psychiatry at the Yale University School of Medicine for more than 40 years. He was the founder of the Department of Psychiatric Consulting Service at Yale. In 1995, Dr. Kaunitz received the department of psychiatry of the Yale University School of Medicine Lifetime Service Award. He maintained a private psychiatric practice in New York City and Westport for 50 years. Former president of the Connecticut Psychiatric Society, Dr. Kaunitz was a member of the Fairfield County Medical Association and the Connecticut State Medical Society. Dr. Kaunitz died the 12 of December of 1999 at the age of 85.

WALTZMAN, STUART A., Chicago Medical School University of Health Sciences, 1961. Dr. Waltzman, a psychiatrist, was in private practice in Westport for over 30 years. He was a former Director of Liaison Psychiatry at Jacob Hospital, a member of the faculty of the department of psychiatry at Albert Einstein College of Medicine, and served as attending physician at Norwalk Hospital. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Waltzman died 2 January 2000 at the age of 63.

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***Opportunities* should be typed, double-spaced copy on letterhead and submitted to CSMS, Physician Placement Service, 160 St. Ronan Street, New Haven, CT 06511 (203) 865-0587 or fax to (203) 865-4997. These will be published as space permits and will be distributed to physicians inquiring about such *opportunities*.**

***Physicians wishing to locate* in Connecticut may call the office requesting opportunities in their specialty. Also, candidates are invited to submit a resume to be kept on file with the Society. An announcement of a physician's availability will be published in two issues of *Connecticut Medicine* as space permits.**

Listing of physicians in the Placement Service does not in any way represent certification by the Society. Investigation of credentials and experience is the responsibility of those seeking applicants for positions.

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CONNECTICUT MEDICINE (ISSN 0010-6178), published monthly at 160 St. Ronan Street, New Haven, CT 06511. Subscription rate included in membership dues. Non-members: $25.00 per year. Periodicals postage paid at New Haven, CT and at additional mailing offices. POSTMASTER: Send address changes to Connecticut Medicine, 160 St. Ronan Street, New Haven, CT 06511-2312.

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Connecticut Medicine

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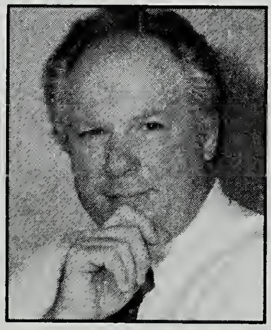

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Long-Term Survivors of Heart Transplantation: The Hartford Hospital Experience

ROBERT T. SCHWEIZER, M.D., JAMES E. DOUGHERTY, M.D.,
MICHAEL A. ROSSI, M.D., AND HENRY B.C. LOW, M.D.

ABSTRACT—Heart transplantation has been a clinical program at Hartford Hospital for the past 15 years, resulting in 206 transplants. The five-year survival rate is 69% and is 43% at 10 years. The first recipient is surviving and has had full rehabilitation. Thirteen patients have survived 10 years or more. Advances in immunosuppression are ongoing and will result in further long-term survivors. Graft vasculopathy and lack of organ donation are current problems.

TRANSPLANTATION of the human heart stirs the imagination since the heart has long been considered "the seat of the soul." As a clinical reality, it was one of the most remarkable medical achievements of the past century.

The first human heart transplant in 1967 launched a burst of activity in the subsequent year. Unfortunately, inadequate control of the rejection process resulted in an abrupt cessation of heart transplantation with the exception of a few programs. During the 1970s, clinical investigations at Stanford University in Palo Alto, California, resulted in improved one-year survival from 22% in 1968 to 65% in 1978.[1] A major advance in immunosuppression came with the use of cyclosporine,[2] resulting in improved early and late patient survival.[3] This report will present long-term follow-up of heart transplants performed at Hartford Hospital and provide an overview of the current state of the art.

Methods and Materials

The medical records of all 206 heart transplant operations performed at Hartford Hospital from 1984 through January 2000 were reviewed. The surgical technique was the standard orthotopic procedure developed by Lower and Shumway.[4] Preservation was with cold cardioplegic solution[5] and histocompatibility typing included ABO compatibility and the determination of preformed antidonor cytotoxic antibodies and HLA antigens. Immunosuppression usually consisted of the combination of three drugs, cyclosporine, azathioprine, and prednisone. More recently, mycophenolate mofetil was substituted for azathioprine in most patients. Right ventricular endomyocardial biopsies were performed by previously described methods.[6] Rejection episode reversal was achieved with administration of methylprednisolone, antithymocyte globulin, and/or a monoclonal antibody against CD3 receptors of T-cells (OKT3®). Total lymphoid irradiation was used in five patients with recurrent rejection as part of a research protocol. Also, patients with frequent or severe rejection activity had tacrolimus (Prograf®) substituted for cyclosporine. Statistical analysis of survival rates was calculated by the Kaplan-Meier method.[7]

ROBERT T. SCHWEIZER, M.D., Director of Transplantation Research, Hartford Hospital, Professor of Surgery, University of Connecticut School of Medicine, Farmington; JAMES E. DOUGHERTY, M.D., Associate Clinical Professor of Medicine, University of Connecticut School of Medicine, Farmington, Division of Cardiology, Department of Medicine, Hartford Hospital; MICHAEL A. ROSSI, M.D., Assistant Clinical Professor of Medicine, University of Connecticut School of Medicine, Farmington, Division of Cardiology, Department of Medicine, Hartford Hospital; HENRY B.C. LOW, M.D., Director of Cardiothoracic Surgery, Department of Surgery, Hartford Hospital, Professor of Surgery and Chairman of Division of Cardiothoracic Surgery, University of Connecticut School of Medicine, Farmington.

Results

Two hundred six heart transplants were performed between November 1984 and January 2000. Ninety-nine of those patients are currently surviving. Forty-one patients have survived five years and 13 have survived 10 years or more. The five-year survival rate was 69%, the 10-year survival rate was 43%. The longest survivor, now 15 years post-transplant, will be presented.

Case Report.—AB, a 34-year-old Caucasian male suffered a massive myocardial infarction in September 1984, with resultant refractory congestive heart failure, and remained hospital confined (NYHA Class IV). Liver and renal functions were normal. The patient had no contraindications for heart transplantation.

On 20 November 1984, a suitable heart donor became available at Lawrence and Memorial Hospital in New London, Connecticut. The donor was a 27-year-old male suffering brain death secondary to trauma. The transplant was performed that evening. Post-transplant heart function was excellent. Renal failure, possibly secondary to cyclosporine, reversed after one hemodialysis treatment. One mild rejection episode, diagnosed by endomyocardial biopsy in the second week postoperatively, reversed with a transient increase in immunosuppressive medications. He experienced no infections. Immunosuppression was with cyclosporine, azathioprine, and prednisone.

Two mild rejection episodes were diagnosed and reversed in the subsequent year. The patient returned to full-time employment with a package delivery company, performing his usual work involving heavy lifting. A right and left heart catheterization study at one-year post-transplant showed normal coronary arteries and an ejection fraction of 52%. Subsequent annual coronary catheterization studies were normal until January 1990 when mild intraluminal disease appeared. The coronary artery disease progressed slowly until MMF was substituted for azathioprine in 1998. His most recent catheterization study showed no progression of the CAD. Hypertension had been controlled with diltiazem and he began pravastatin in 1998 because of hyperlipidemia. Over the past 15 years he has enjoyed good health, fathered two children, and is a vigorous advocate for heart transplantation and organ donation.

Discussion

The above case was the first successful heart transplant performed in Connecticut. Heart transplant programs at Hartford Hospital and at Yale New Haven Hospital evolved simultaneously, both resulting from extensive preparation and the solid foundations of successful kidney transplant programs. Many of the original procedures used for heart transplantation have remained, but the field has progressed considerably since 1984.[8,9] The following discussion will provide a review and present the current practice and a prediction of future developments.

Technique

Early experimental attempts at heart transplantation were unsuccessful because of the long time required to perform four separate pulmonary vein anastomoses, in addition to the anastomoses of the aorta, pulmonary artery, and the vena cava. Retaining the wall of the two atria in the recipient (thereby including the ostia of the four pulmonary veins) permitted a rapidly accomplished, single suture line between donor and recipient atria. That method obviated the need for four separate pulmonary vein anastomoses and was the major technical advance permitting successful heart transplantation.[4]

Preservation

Alexis Carrel discovered the importance of hypothermia for organ transplantation in the early 1900s.[10] Modifications in the chemical composition of preservation solutions have extended cold ischemic time for renal and liver transplantation, but it is still limited to approximately four hours for hearts. That limitation necessitates rapid transportation between a donor hospital and the transplant center.[5]

Serology and Histocompatability Testing

ABO blood antigen compatibility between the donor and the recipient is required, as is avoidance of preformed cytotoxic antibody against donor histocompatible (HLA) antigens (usually a result of blood transfusion or multiple pregnancies). Matching for HLA antigens may improve long-term results of heart transplantation, but the paucity of organ donors and the usual critically ill condition of the recipients negates the luxury of waiting for a good HLA match in most instances.

Recipient Selection

The criteria used for recipient selection have been published.[11] In general, the recipient should have a reasonable chance for prolonged survival. Excluded are patients who have active infection, fixed pulmonary hypertension, the presence or history of cancer (with consideration given for patients having apparent cure), intractable and severe pulmonary or peripheral vascular disease, psychiatric disorders which interfere with adherence to the medical regimen and follow-up, and morbid obesity.

Donor Selection

Heart donors meet the requirement of determination of death by total and irreversible loss of brain function, a determination made by physicians not associated with the transplant team. They must have satisfactory heart function free of serious heart disease. Excluded are patients with cancer and transmissible infectious disease.

Control of Rejection

After the early technical problems, control of rejection, a natural cellular defense mechanism, was the major deterrent to successful heart transplantation. The use of azathioprine and prednisone, while permitting long-term success in many recipients of kidney transplants, did not work as well in heart transplant recipients. The advent of cyclosporine permitted improved survival.[2] Cyclosporine was initially combined with prednisone. However, the immunosuppression used at Hartford Hospital combined three antirejection agents in order to achieve a synergistic action.[12] The goal was lower dosage of each drug with fewer side effects and possibly better immunosuppression. However, individualized immunosuppression was a major consideration as not all patients required triple-therapy for maintenance.

The treatment of rejection episodes has been with the use of intravenous methylprednisolone, or antibodies that will inactivate or eliminate the cells causing the rejection process. Antibodies against lymphocytes, and a more specific monoclonal antibody which targets a single receptor on T lymphocytes, have been available. More recently, antibody preparations using human gamma globulin as a foundation have fewer side effects and aid in prevention of early rejection activity.[13,14]

In addition to chemical and biologic methods to suppress the rejection activity, a key factor in the management of the heart transplant patient is the detection of rejection episodes. In the early experience, decreased voltage on the standard electrocardiogram suggested rejection activity (ie, swelling of the heart), but with better immunosuppression the decreased voltage no longer occurred as an early sign. Fortunately, the ease with which endomyocardial biopsies could be obtained percutaneously *via* the jugular vein permitted accurate detection of cellular rejection. In conjunction with those biopsies was the development of a grading system of cellular rejection, pioneered by Margaret Bellingham, M.D. at Stanford University.[15] The grading system permitted physicians to tailor the level of antirejection therapy to the severity of rejection.

Prophylactic Measures

Depression of the immune response by antirejection medications interferes with defense against infection and tumor development. Therefore, serious infections are not infrequent, although the incidence of infection diminishes as the dosage of immunosuppression is tapered and most infections can be readily detected and treated. One recent development is better control of the cytomegalovirus (CMV) infection. Occurring as either a reactivation of a latent condition, or as a more serious primary infection, coronary vascular endothelial injury can result. Ameliorating CMV infection has been successful with use of a hyperimmune globulin against the virus and with medications which interfere with virus replication, such as ganciclovir.®

Several prophylactic medications are given to all organ transplant recipients, such as clotrimazole to prevent oral *Candida* infection, Bactrim®, or Mepron® to prevent *Pneumocystis carinii*, and Valtrex® to prevent *Herpes simplex* infections.

Cancer

The risk of cancer development in the heart transplant recipient is several times greater than that of the general population.[16] Detected cancers can be managed successfully in many patients. For example, skin cancers are frequent, but usually respond to appropriate therapy. Another disorder with a high incidence (as compared to the general population) is a lymphoproliferative disease that often develops into a B-cell lymphoma.[16]

Graft Vasculopathy

Perhaps the greatest deterrent to long-term survival of the heart transplant recipient today is the development of coronary artery disease.[17] This is usually different from conventional atherosclerotic disease, often presenting as a diffuse narrowing beginning in the small arterioles. These coronary artery lesions are commonly referred to as "chronic rejection," but the process involves more than immunologic injury. It is the result of the combination of injury from rejection along with other events such as cytomegalovirus infection, reperfusion injury, and hyperlipidemia. Adequate control or prevention of this process will be a major advance for the heart transplant recipient.

Organ Donor Availability

The availability of hearts for transplantation continues to be a major problem. Nationally, 10% to 20% of patients on the waiting list for heart transplants die before a suitable heart becomes available. This has resulted in consideration of the use of nonhuman hearts, eg, pig hearts, for human transplantation. Major biologic barriers, however, have prevented the implementation of such transplants even for short-term survival, although considerable progress has been made in the past few years.[18]

Cost

While organ transplantation is expensive, averaging $90,000 for the first year, it must be viewed with respect to treatment of chronic heart failure in general. For example, multiple hospital admissions, repeat operative procedures and prolonged intensive care unit stays add up to enormous costs. Successful organ transplantation, especially without serious rejection activity, can be less costly and can also result in a high level of rehabilitation and improved quality of life.

The Future

Many important therapeutic advances are in development and the next decade will see major improvements. For example, graft vasculopathy will probably come under control with better immunosuppressive medications, or combinations of drugs, which protect the vascular endothelium and prevent fibroplasia. Safer immunosuppression will bring a reduction in the incidence of cancer and serious infections. Also, newer immunosuppressive agents will probably permit the establishment of specific immunologic tolerance. That is, after an initial period of treatment with a combination of medications and immunoalteration (for example, delivery of specific donor type HLA peptides), no further immunosuppression will be necessary. In addition, increased cooperation with organ donation could double the number of heart transplants performed annually.

While heart transplantation continues to progress, better methods to manage patients with end-stage cardiac disease are also progressing. For example, safer and more effective cardiac assist devices are in use, some of which may be preferable to a heart transplant in selected patients. Prevention of serious cardiac disease is an obvious goal, so that someday heart transplantation will be primarily of historic interest. The heart, however, will likely continue in its unique role as the epicenter of the body, in function and in spirit.

Acknowledgments

The authors acknowledge the work of members of the Hartford Transplant Center, both past and present, the Staff of Hartford Hospital, and the cooperation of area physicians and hospitals.

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An Uncommon Presentation of a Common Disease: The Importance of the History in Medicine

HECTOR I. MICHELENA, M.D. AND BARRY J. WU, M.D.

ABSTRACT—A 32-year-old recent Russian immigrant, mother of a 20-month-old son, presented with right hip pain. She had a history of peptic ulcer disease and a positive *Helicobacter pylori* serology. Her pain was not relieved by analgesics. Spine and pelvic films were unremarkable. A bone scan was consistent with metastatic disease. She underwent several diagnostic tests including computed tomography of the chest and abdomen, magnetic resonance imaging of the spine, mammogram, and breast ultrasound. A bone marrow biopsy revealed adenocarcinoma, primary site unknown. An upper endoscopy performed eight weeks after her initial presentation showed an ulcerating gastric carcinoma. She was treated with chemotherapy but died two months after diagnosis. Our patient had an uncommon presentation of a common disease. Recognizing her country of origin, and other risk factors, may have facilitated an earlier diagnosis.

GASTRIC cancer is one of the most common malignancies worldwide. Its incidence is particularly dependent on geographic location. It is also associated with older age, lower socioeconomic status, low vitamin intake, atrophic gastritis, *Helicobacter pylori,* and blood group type A. The most common presenting symptoms are weight loss, abdominal pain, nausea, anorexia, early satiety, dysphagia, and melena. Bone pain is an uncommon manifestation, particularly in a young patient. We report a 32-year-old woman with metastatic gastric cancer who presented with bone pain. Recognizing her country of origin, and other risk factors, may have contributed to an earlier diagnosis.

Case report.—The patient was a 32-year-old female, native of Russia, who immigrated to the United States in 1997. In 1995, while still in Russia, she was diagnosed with peptic ulcer disease by endoscopy. She was treated with oral medications resulting in complete relief of symptoms. In July 1998, she had recurrent epigastric pain and a positive *Helicobacter pylori* serology. She was started on a proton pump inhibitor, which relieved her symptoms. She had no family history of cancer and she denied tobacco or alcohol use.

The patient presented again in August 1998 with a five-day history of severe localized right anterior iliac crest pain. She denied fever, chills, anorexia, weight loss, or trauma. She was breast feeding her 20-month-old son. On examination, there were no signs of trauma, skin changes, or adenopathy. She had moderate pain to palpation on the right anterior iliac crest. The pain was aggravated by active abduction of the right leg and straight leg raising to 80 degrees. Neurological examination was negative. She received acetaminophen for her pain.

One week later, she returned with worsening pain radiating to the right medial thigh and buttock. The pain was not relieved by rest and awoke her from sleep. Motor, sensory, and reflex testing were normal. Plain films of the lumbar spine and pelvis showed no fracture, dislocation, or lytic lesions. A bone scan was consistent with widespread metastatic disease involving the entire skeleton (Fig. 1). She was admitted for pain control and for further evaluation.

HECTOR I. MICHELENA, M.D., Resident in Internal Medicine, Hospital of Saint Raphael, Yale University School of Medicine; BARRY J. WU, M.D., F.A.C.P., Associate Program Director, Hospital of Saint Raphael, Assistant Clinical Professor of Medicine, Yale University School of Medicine.

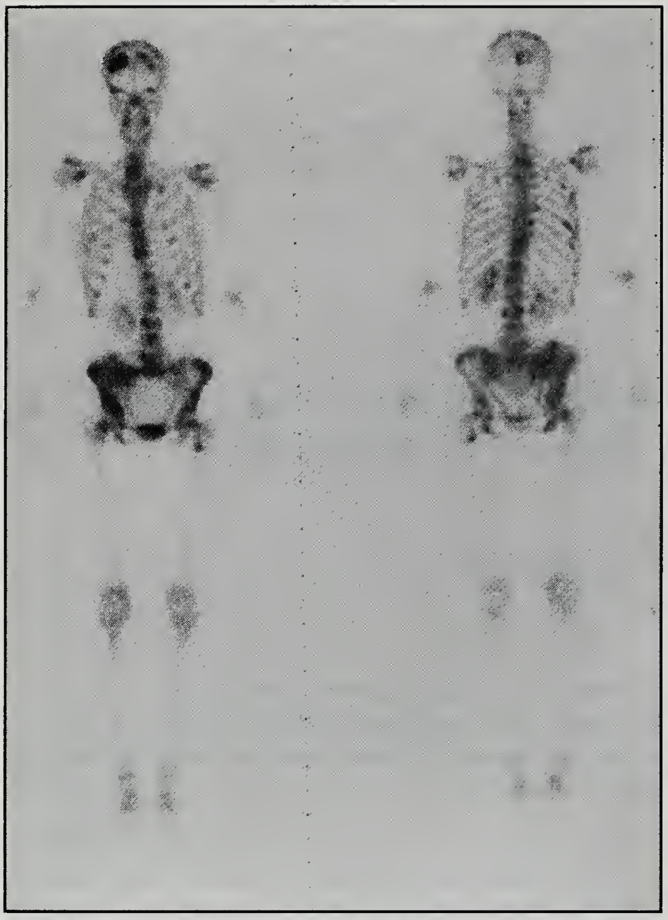

Figure 1.—Bone scan demonstrating multiple enhancing lesions.

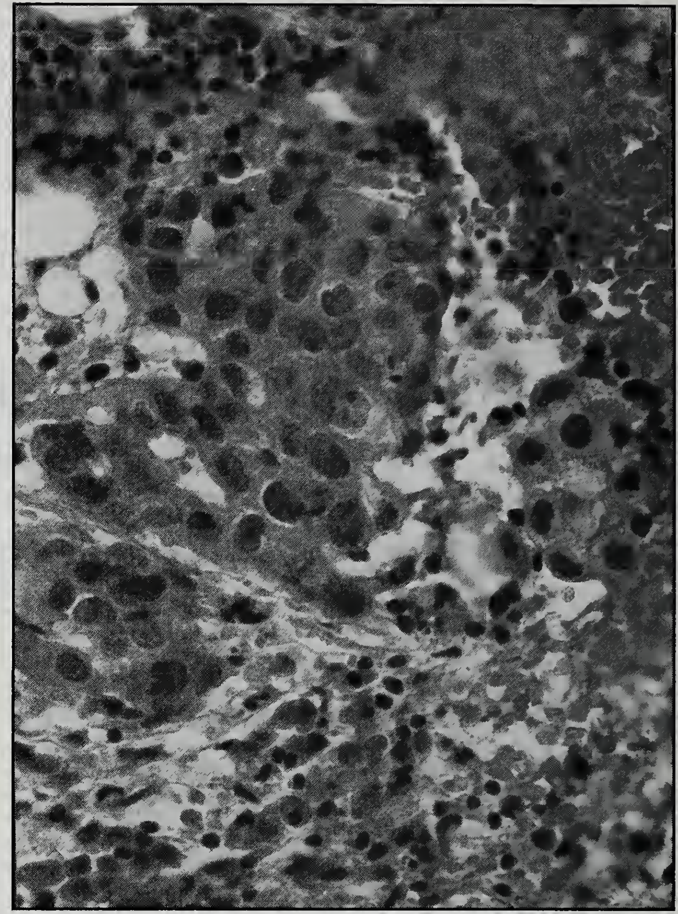

Figure 2.—Bone marrow aspirate showing nests of cells consistent with adenocarcinoma.

On admission, the patient was anxious and in moderate distress. She was not orthostatic and her conjunctivae were pale. Breast examination revealed normal lactation without masses or tenderness. The abdomen was soft, nontender, and without hepatosplenomegaly. Rectal examination revealed normal sphincter tone and brown, guaiac positive stool. There was exquisite tenderness to palpation along the right anterior iliac crest, with pain on abduction and straight leg raising to 30 degrees. There was also mild tenderness along the lumbar spine. Cranial nerves, motor, sensory, and reflex examinations were normal.

Initial laboratory studies revealed hemoglobin 9.8gm/dl, white blood cell count 7,600/mm^3, platelet 214,000/mm^3, erthryocyte sedimentation rate 34mm/hr, and blood group type A. She had normal electrolytes, iron studies, and tumor markers.

The patient's pain was controlled with narcotics and she had an extensive workup for tumor of unknown origin. Chest radiograph, computed tomography of the chest, abdomen, and pelvis, mammogram, and magnetic resonance imaging were negative. A bone marrow biopsy showed adenocarcinoma (Fig. 2). Upper gastrointestinal endoscopy eight weeks following her initial presentation, showed an ulcerating antral mass. Biopsy confirmed the diagnosis of gastric adenocarcinoma (Fig. 3).

The patient received chemotherapy (5-flurouracil, etoposide, and leukovorin), and radiation therapy to her stomach and right hip. Treatment was complicated by neutropenia and disseminated intravascular coagulation. The patient died two months after the diagnosis was established.

Discussion

The most common cancers in American women today are breast, lung, and colon cancer.[1] Gastric cancer was the third leading cause of cancer-related death in American women in 1930.[2] The incidence in the United States has decreased significantly over the past decades, but it remains the second most common cause of cancer-related death worldwide. The distribution of gastric cancer varies geographically. The incidence is higher in Japan, South America, Eastern Europe, and Russia than in the United States. The standardized incidence of gastric cancer in 1990 per 100,000 women was 20.91 in the Russian Federation and 3.94 in the United States.[3] Gastric cancer mortality rates for women in 1995 were 27.1 in the

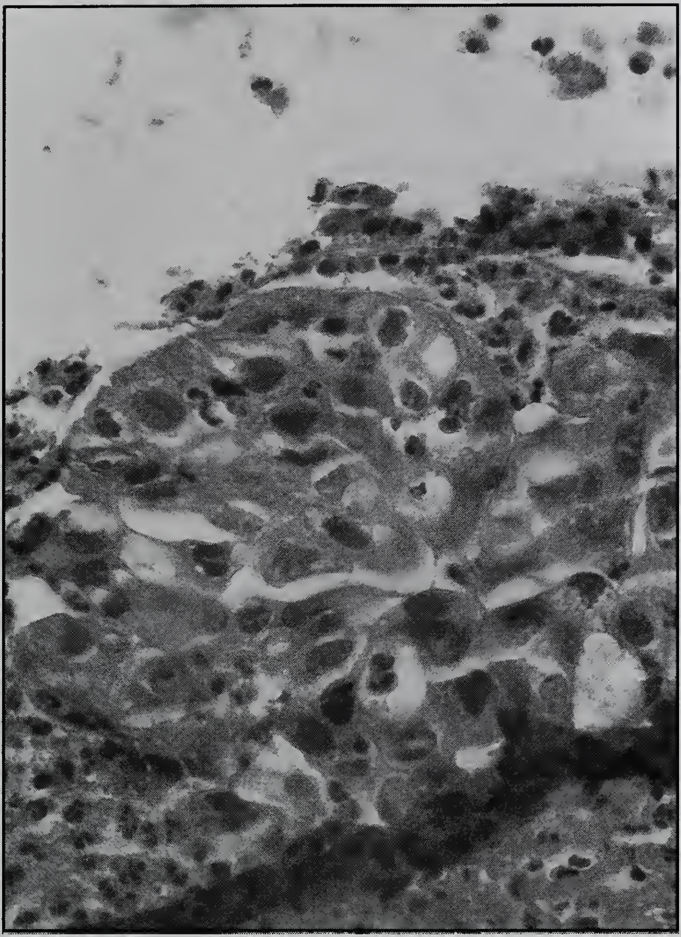

Figure 3.—Gastric biopsy revealing adenocarcinoma.

Russian Federation and 4.2 in the United States. Studies of migrant populations have shown that the increased risk of gastric cancer persists despite immigration to other countries. Among Japanese migrating from areas with the highest areas of gastric cancer in Japan, to Hawaii, the increased risk of gastric cancer remains even when a Western-style diet is adopted.[4] Clearly, early environmental exposure and genetic factors are important in determining the risk for gastric cancer.

Several other risk factors for gastric cancer have been identified. Atrophic gastritis and intestinal metaplasia are associated with gastric cancer and may be related to *Helicobacter pylori*. The precise role of *Helicobacter pylori* in gastric carcinogenesis remains unclear. It has been shown recently that *Helicobacter pylori* isolates that process the CagA gene are more virulent and produce significant gastritis and epithelial injury. Patients with CagA *Helicobacter pylori* have a greater risk of developing gastric cancer than those with CagA negative strains.[4] Other risk factors include blood group type A, low social economic status, low dietary vitamins, and consumption of smoked foods.[4]

Few symptoms are associated with early gastric cancer. Most patients are diagnosed when the disease is far advanced. In a review of 18,365 patients with gastric cancer, the most common presenting symptoms were weight loss, abdominal pain, nausea, anorexia, dysphagia, melena, early satiety, and ulcer-type pain.[2] Bone pain is an unusual presenting symptom. Autopsy studies show that bone metastases occur in less than 2% of patients with gastric cancer.[5] The severity of bone pain despite the negative roentgenograms prompted the bone scan in our patient. When bone pain is out of proportion to clinical findings, further investigation is warranted. Studies have confirmed the value of bone scan in identifying occult malignancy in patients with problematic bone or musculoskeletal pain.[6]

Clearly, our patient illustrates the importance of history in establishing an accurate differential diagnosis. Although she was young, she originated from a country with a much higher incidence of gastric cancer than occurs in the United States. Furthermore, she had multiple other risk factors for the disease including a history of chronic gastritis, *Helicobacter pylori,* and blood group type A. In addition, she was also not taking vitamins following her pregnancy and may have been nutritionally depleted. Entertaining gastric cancer higher on the differential diagnosis list may have led to an earlier diagnosis although her final outcome may not have been altered.

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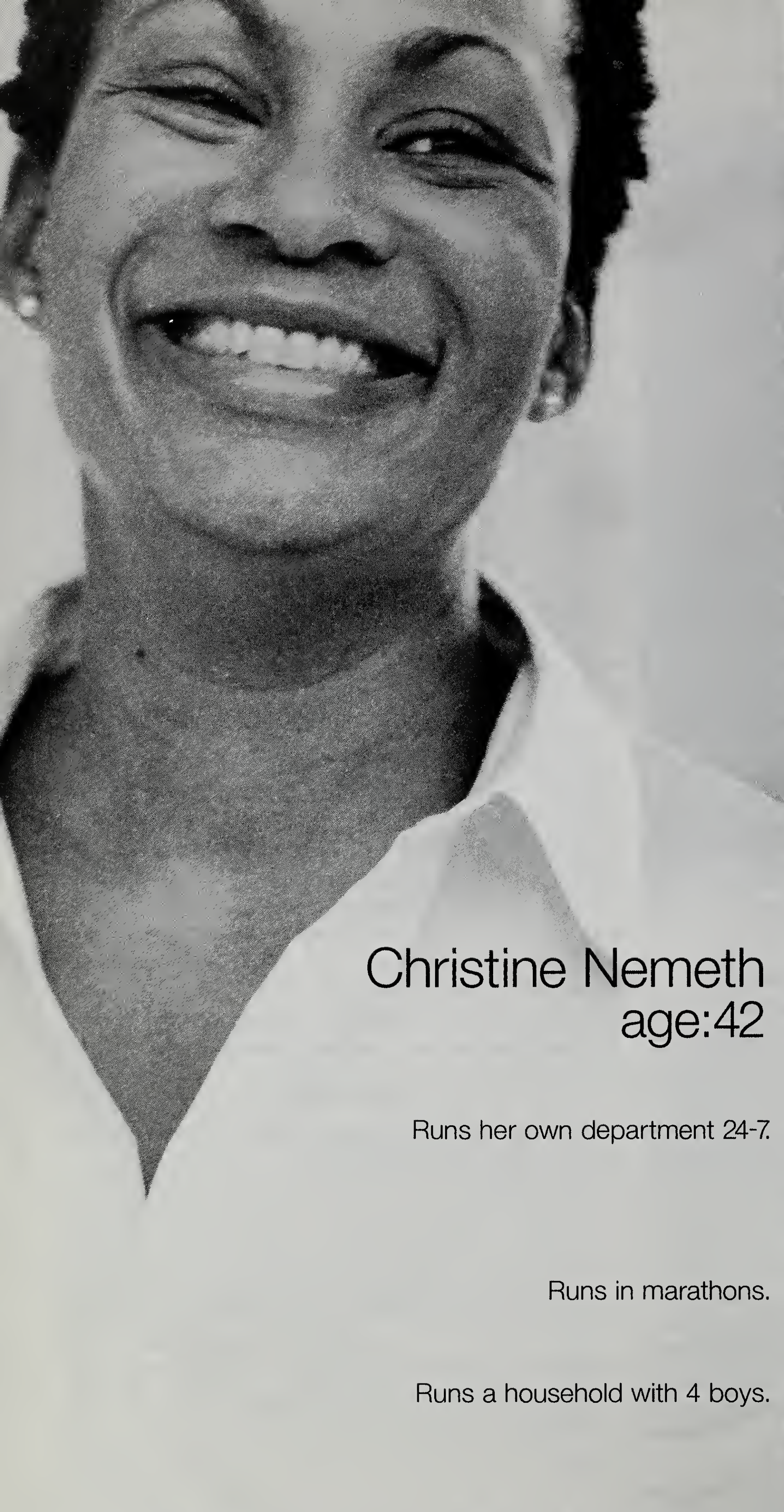Christine Nemeth
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SLS 833

Recurrent Upper Gastrointestinal Bleeding Due to the Dieulafoy's Lesion

ALEXANDER Y. CHAN, M.D., AND WILLIAM H. RAMSEY, M.D.

ABSTRACT—Dieulafoy's lesion of the gastrointestinal tract, an abnormally dilated artery that penetrates through the mucosa, has been diagnosed more frequently in recent years. Bleeding occurs when the vessel ruptures. Despite widespread awareness of this entity, it remains a diagnostic challenge for gastroenterologists because of its small size and hidden location. Several different diagnostic methods and treatments have been introduced throughout the years. Endoscopy plays a major role in diagnosis and therapy. In this case report, the patient was successfully treated endoscopically using epinephrine injection and heater probe thermocoagulation. The characteristics of the Dieulafoy's lesion, its current diagnosis, treatment, and complications are discussed.

Introduction

DIEULAFOY'S lesion is a rare but potentially life-threatening cause of gastrointestinal bleeding. The lesion was first reported by Gallard in 1884. It was described by the French surgeon Dieulafoy in 1896 as "exulceratio simplex" since the mucosal defect was small and the underlying artery was large but histologically normal.[1] It has also been labeled as a "caliber-persistent artery" since the artery maintains a persistent caliber as it penetrates the muscularis propria.[2] Massive bleeding as the result of vascular rupture is the most serious complication caused by this lesion.

The lesion usually occurs in the proximal stomach but has been found in the esophagus, small intestine, and colon.[2,3] Because of its small size and location deep between the mucosal folds, Dieulafoy's lesion presents a diagnostic challenge for gastroenterologists. Repeated endoscopy may be necessary in order to identify it. Angiography and endosonography can be helpful.

Dieulafoy's lesion can be successfully treated using therapeutic endoscopy. Several methods have been described in the literature. Surgery is reserved for the failure of endoscopic therapy or when endoscopic treatment is impossible.[4]

In this report, the patient required repeated endoscopy to make the diagnosis of Dieulafoy's lesion and was successfully treated with epinephrine injection and heater probe thermocoagulation without complication or rebleeding.

The purpose of this report is to alert physicians to the importance of this potentially serious lesion and to highlight recent advances in diagnosis and management.

Case Report

A 65-year-old white female with a past medical history of St. Jude mitral valve replacement, on coumadin, with hypertension, atrial fibrillation, diabetes mellitus type II, and hyperlipidemia was admitted to the hospital with a second episode of acute upper gastrointestinal bleeding.

Melena began five days prior to admission. She discontinued coumadin and iron. Melena continued and she became increasingly weak and short of breath with minimal exertion. She presented to the clinic where she was found to have heme-positive stool, an INR of 1.75, hematocrit of 17% (with previous hematocrit of 25%), and

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ALEXANDER Y. CHAN, M.D., Second year resident, Primary Care Internal Medicine,University of Connecticut Health Center, Farmington; WILLIAM H. RAMSEY, M.D., F.A.C.P., Attending Physician, Division of Gastroenterology and Hepatology,University of Connecticut Health Center, Farmington, Associate Professor of Medicine, University of Connecticut, School of Medicine, Farmington.

hemoglobin of 5.6g/dl. She denied nonsteroidal anti-inflammatory drug use, smoking, alcohol abuse, hematochezia, hematemesis, and abdominal pain.

The patient had been admitted to the hospital for a similar episode four months earlier. At that time, esophagogastroduodenoscopy and colonoscopy did not identify the bleeding site. Her hematocrit had dropped to 18.5%. INR was 3.5. Blood transfusion was withheld because of religious constraints. Coumadin was held and the patient received oxygen, vitamin K, iron, epogen, and intravenous fluids. Angiography was canceled since no evidence of further bleeding was noted. She was discharged with a hematocrit of 23%.

On this admission she was pale with orthostatic hypotension and tachycardia. The abdomen was soft, nontender, with normal bowel sounds, no guarding, and no mass palpable. Rectal examination revealed black, heme-positive stool. The remainder of her examination was not significant except that the heart rhythm was irregular with a mechanical click for an S1 sound and a systolic murmur, consistent with a mechanical valve.

The technetium (^{99m}Tc)-labeled red blood cell scan for a bleeding site was negative. Esophagogastroduodenoscopy revealed old blood and a 2mm lesion on the posterior gastric wall, 2cm below the esophagogastric junction consistent with a Dieulafoy's lesion. It was treated with an injection of 1 :10,000 epinephrine (2cc) and six applications of heater probe thermocoagulation at 30 joules. Again, due to religious beliefs, no blood was given. She received epogen, iron, vitamin K, oxygen, and intravenous fluids. She was discharged with a hemoglobin of 7.4g/dl and hematocrit of 22.3%. No complications or rebleeding were noted during her eight day hospital stay.

Discussion

Dieulafoy's lesion is a discrete entity characterized by a bleeding or clot-bearing artery protruding into the gastrointestinal lumen without surrounding ulceration. Mortality rate can be up to 79% if this hemorrhagic lesion is left untreated.[2]

Studies have shown that typical patients are middle-aged and elderly men.[5] Most have a history of peptic ulcer disease and up to 42% have had previous gastrointestinal bleeding.[2] Dieulafoy's lesion accounts for less than 6% of acute upper gastrointestinal bleeding episodes.[6] The usual clinical presentations are recurrent hematemesis, melena, hematochezia, and hypotension.[1]

Pathological examination reveals a small submucosal muscular artery at the level of the muscularis mucosa that is abnormally large compared with other vessels found at the same level.[7] Histologically, this lesion reveals medial hypertrophy and advanced fibrosis without evidence of aneurysm formation, atherosclerosis, arteritis, or surrounding inflammation.[1,4] Endoscopically, it may appear as a small erosion with a protruding artery, a fresh adherent clot with a narrow point of attachment, or an elevated red spot in a normal-appearing mucosa.[8]

The pathogenesis of Dieulafoy's lesion is not yet understood. Two hypotheses have been proposed. One proposed hypothesis is that a submucosal artery elongates and becomes tortuous with aging. This artery may cause pressure on the overlying mucosa leading to mucosal ischemia, erosion, and then arterial rupture.[7] A second hypothesis is that a large submucosal artery follows a congenitally abnormal course which brings it close to the mucosa, and an erosion of the overlying mucosa leads to arterial rupture.[7]

Diagnosis can be made by endoscopy, endosonography, and technetium (^{99m}Tc)-labeled red blood cell scintigraphy. Detection of Dieulafoy's lesion can be very difficult due to its small size (2-8mm), unique location, solitary nature, and the lack of a significant visible injury.[1] Repeated endoscopy may be necessary to capture the lesion when the vessel is bleeding. The lesion is usually within 6cm of the esophagogastric junction in the cardia or fundus of the stomach, but a nongastric location can occur.[3] In our patient the lesion was located 2cm below the esophagogastric junction in the posterior wall of the stomach. In one study, 98% of the lesions were located in the upper portion of the stomach, 35% on the lesser curvature, 6% on the greater curvature, 14% on the posterior wall, 2% on the anterior wall, 25% in the fundus, 2% in the antrum, and 6% not stated.[1]

In our patient, an intravenous technetium (^{99m}Tc)-labeled red blood cell scan was attempted prior to endoscopy in identifying the bleeding site during her second episode of acute upper gastrointestinal bleeding. Many reports have proven the usefulness of intravenous technetium (^{99m}Tc) in localizing the bleeding site.[14,15] A recent study indicated that intra-arterial of technetium (^{99m}Tc)-labeled red blood cell scintigraphy via the superior mesenteric artery identified the bleeding site in the small bowel more accurately than conventional intravenous of technetium (^{99m}Tc)-labeled red blood cell scintigraphy.[9]

Evaluation by endosonography was first reported in 1993.[10] More recently, a rotating sector scanner and a radial scanner with a 7.5/12MHZ echoendoscope were used successfully to image Dieulafoy's lesion.[8,11] The abnormal artery was visualized penetrating the muscularis propria and the submucosa. The artery was measured between 2mm and 3mm in diameter and 2cm to 4cm in length, after which it tapered to indistinguishable size.[8] This technique appears to be a quick and safe diagnostic method and deserves further study in detecting the Dieulafoy's lesion. No studies are available yet as to the usefulness of magnetic resonance angiography.

In the past, surgery was the standard treatment for Dieulafoy's lesion, but currently the lesion can be treated endoscopically. The success rate of initial treatment can be up to 96% during the first hospitalization.[5] Treatment methods include injection sclerotherapy, heater probe thermocoagulation, laser photocoagulation, and monopolar/bipolar electrocoagulation alone or in combination.[3] Newer techniques have also been introduced such as endoscopic clipping and band ligation.[6,9] Since band ligation is appropriate for areas of bleeding within otherwise nonfibrotic tissue, it may be a useful tool, and rarely causes perforation.[2] More studies are necessary to prove its efficacy. Recent studies also show promising results using endosonography-guided treatment, since it visualizes the size, length, and course of the tortuous vessel.[8] Another therapeutic option for Dieulafoy's lesion is angiography with gelfoam embolization.[1] Reported cases using this technique are few.

The major complication of treating the Dieulafoy's lesion with injection or coagulation methods is perforation of the viscus. Epinephrine causes focal damage without thrombosis of submucosal vessels.[1] Ethyl alcohol causes severe tissue damage with ulceration and necrosis and vessel thrombosis.[12,13] No data are available for the most effective or maximum safe dose of injectable agents. Combination therapy may increase the risk of perforation. One study demonstrated a 2% incidence of perforation using epinephrine injection and either bipolar electrocoagulation or Nd:YAG laser photocoagulation.[12]

Surgical treatment involves the use of a wide gastrotomy which allows for best visualization. Once the lesion is identified, it is either ligated, oversewn, or removed via gastric wedge or wide resection.[1] Blind resection or subtotal gastrectomy is not recommended because the lesion may not be included in the resected specimen and massive rebleeding occurs postoperatively.[1]

Rebleeding after initial success with endoscopic therapy has been described in all published reports, with follow-up of up to 80 months. The rebleeding occurs from a few hours to six months post-treatment. In these cases, the patients were retreated with endoscopy or underwent surgery. In one study, 12 out of 79 (15%) patients rebled, eight out of 12 (64%) were treated endoscopically, and four out of 12 (33%) went to surgery.[1] In other studies, there was a 4% to 5% rebleeding rate.[5,7] The number of patients in the studies was limited; as a result, it is difficult to estimate the likelihood of rebleeding.

Conclusion

Dieulafoy's lesion is an abnormal dilated submucosal artery in the upper gastrointestinal tract which can rupture and bleed. It is difficult to diagnose due to its size and location. Without proper and prompt treatment, it is life threatening. The available interventions continue to evolve. Currently, endoscopy, with the assistance of angiography and endosonography, is an important tool in diagnosing and treating the Dieulafoy's lesion. In the future, endosonography may provide greater success in detecting and treating the lesion, since it allows endoscopists to visualize the abnormal vessel under the submucosal layer and to apply therapy, especially injection sclerotherapy, with more precision. Further study will be necessary to understand the full potential of endosonography and magnetic resonance angiography in assisting with the diagnosis and treatment of the lesion.

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Reasons Reported by Medicare Beneficiaries for Not Receiving Influenza and Pneumococcal Vaccinations— United States, 1996

IN the United States, influenza causes an average of 20,000 deaths per year; 90% of these death are among persons aged ≥65 years.[1] Pneumococcal disease accounts for more deaths than any other vaccine-preventable bacterial disease.[2] Annual influenza vaccination and one dose of pneumococcal polysaccharide vaccine can prevent complications from these infections among persons aged ≥65 years.[1,3] In 1997, 65% of adults aged ≥65 years reported receiving influenza vaccination during the previous 12 months and 45% reported ever receiving pneumococcal vaccination.[4] This report presents an analysis of responses to the 1996 Medicare Current Beneficiary Survey (MCBS) to describe self-reported vaccination status and reasons for not receiving influenza and pneumococcal vaccinations reported by Medicare beneficiaries aged ≥65 years; the findings indicate that most persons who had never received pneumococcal vaccination did not think they needed it, and those who had not received influenza vaccine did not know of the need for influenza vaccination and had misconceptions about its safety and efficacy.

MCBS is an ongoing, nationally representative, multistage, longitudinal survey of approximately 16,000 Medicare beneficiaries.[5] Participants are interviewed in person every four months even if they have changed residences or live in long-term care facilities. In the autumn of each year, respondents are asked, "Did you have a flu shot for last winter?" and "Have you ever had a shot for pneumonia?" During 1996, beneficiaries were asked for the first time why they had not been vaccinated for each vaccination they reportedly had not received. Beneficiaries were not provided with a response list. Interviewers assigned each reported reason to one of 23 categories that were created to accommodate all responses. Proxy respondents were used for persons who were incapacitated. Responses from 14,590 Medicare beneficiaries aged ≥65 years were weighted to represent the Medicare population in 1996. SUDAAN software was used to calculate prevalence estimates, 95% confidence intervals (CIs), and adjusted odds ratios (ORB) from multivariate logistic regression analyses. Multivariate logistic regression analyses were used to assess the association of the most commonly reported reasons for nonvaccination with race/ethnicity, controlling for age, income, education, region, vaccination status, health status, degree of debility, and presence of vaccine-indicated medical conditions.

Overall, 65.2% (95% CI=64.1%–66.4%) of beneficiaries reported receiving influenza vaccination for the winter of 1995–1996 and 45.1% (95% CI=43.8%–46.4%) reported ever having received pneumococcal vaccination; 39.3% (95% CI=38.1%–40.5%) of beneficiaries reported receiving both vaccinations and 29.1% (95% CI=28.5%–29.7%) reported receiving neither vaccination; 25.9% (95% CI=25.3%–26.5%) reported receiving only the influenza vaccination and 5.7% (95% CI=5.5%–6.0%) reported receiving only pneumococcal vaccination; of non-Hispanic whites, 67.9% (95% CI=66.7%–69.0%) received influenza vaccinations and 47.6% (95% CI=46.3%–49.0%) received pneumococcal vaccinations. Of non-Hispanic blacks, 45.8% (95% CI=42.6%–49.0%) received influenza vaccinations and 25.2% (95% CI=22.5%–27.8%) received pneumococcal vaccinations. Of Hispanics, 52.9% (95% CI=51.8%–53.9%) and 35.9% (95% CI=32.0%–39.8%) received influenza and pneumococcal vaccinations, respectively. Among other racial/ethnic groups (Asians/Pacific Islanders, American Indians/Alaska Natives, and others*) 58.9% (95% CI=52.5%–65.2%) received influenza and 35.6% (95% CI=29.3%–41.9%) received pneumococcal vaccinations.

Not knowing vaccination was needed was the most commonly reported reason for not receiving influenza (19%) or pneumococcal (57%) vaccination (Table 1). Cost of vaccination and difficulty reaching vaccinators were cited by <2% of beneficiaries. For both vaccines, 10%–15% of unvaccinated beneficiaries reported not thinking of, or missing, vaccination. Approximately 40% of beneficiaries who reported not receiving recent influenza vaccination cited concerns about the vaccine, including

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Reprinted from the *Morbidity and Mortality Weekly Report,* 8 October 1999; vol. 48, no. 39, Centers for Disease Control (CDC), National Institute for Health (NIH).

*When presented separately, numbers for other racial/ethnic groups were too small for meaningful analysis.

Table 1.—Percentage of Medicare beneficiaries* in the Medicare Current Beneficiary Survey aged ≥65 years who reported reasons† for not receiving influenza vaccination during winter 1995–1996 and for not ever receiving pneumococcal vaccination—United States, 1996

Category	%	(95% CI[§])
Reasons for not receiving influenza vaccination¶ (n=4,503)		
"I did not know the flu shot was needed."	19.4	(17.2%–21.6%)
"Did not think of/misled it."	14.6	(13.1%–16.1%)
"Thought the flu shot could cause the flu."	13.9	(12.3%–15.5%)
"Thought the flu shot could have side effects."	13.7[††]	(12.3%–15.2%)
"Didn't think it would prevent the flu."	11.2	(9.8%–12.5%)
"Thought I was not at risk of catching the flu."	6.8	(5.8%–7.7%)
"Don't like shots or needles."	5.9	(4.9%–6.8%)
"Doctor recommenced against the flu shot."	5.7	(4.7%–6.7%)
"Doctor did not recommend the flu shot."	5.6	(4.5%–6.6%)
"Unable toget to the location."	2.3	(1.8%–2.8%)
"Had the flu shot before, did not need it again."	0.8	(0.5%–1.1%)
"Cost of the shot not worth the money."	0.2	(0.1%–0.4%)
Reasons for not receiving pneumococcal vaccination** (n=6,926)		
"I did not know the pneumonia shot was needed."	57.4[††]	(54.4%–60.5%)
"Doctor did not recommend the pneumonia shot."	13.4[††]	(11.6%–15.2%)
"Did not think of it/missed it."	11.3	(9.3%–13.2%)
"Did not thinkitwould prevent pneumonia."	4.3	(3.6%–5.1%)
"Thought I was not at risk of catching pneumonia."	4.3	(3.6%–5.0%)
"Don't like shots or needles."	2.6	(2.1%–3.2%)
"Thought the pneumonia shot could have side effects."	2.4	(1.9%–2.9%)
"Thoughtthe pneumonia shotcould cause pneumonia."	2.3	(1.9%–2.8%)
"Doctor recommended against the pneumonia shot."	1.0	(0.7%–1.3%)
"Unabletogettothelocation."	0.6	(0.4%–0.8%)
"Cost of the shot not worth the money."	0.3	(0.1%–0.5%)

[*] n=14,590, weighted to reflect the 1996 Medicare beneficiary population.

[†] At least one reason for not receiving influenza vaccination was reported by 91% of those who reported not receiving influenza vaccination; at least one reason for not receiving pneumococcal vaccination was reported by 87% of those who reported not receiving pneumococcal vaccination .

[§] Confidence interval.

[¶] Multiple responses were possible for not receiving the influenza vaccination and accounted for 9% of the total responses.

[**] Multiple responses were possible for not receiving the pneumococcal vaccination and accounted for 17% of the total responses.

[††] Logistic regression analysis indicated significant differences by racial/ethnic group.

thinking it could cause influenza; could have side effects, or would not prevent influenza. Of beneficiaries reporting not having received pneumococcal vaccination, 13% cited lack of a doctor's recommendation as a reason.

Logistic regression analysis indicated racial/ethnic differences in three of the eight reasons cited by ≥10% of the nonvaccinated beneficiaries (Table 1). Hispanics and persons of other racial/ethnic groups were more likely than non-Hispanic whites to cite not being aware of the need for pneumococcal vaccination as a reason for nonvaccination (61% *vs* 55% [adjusted OR=1.8, 95% CI=1.3–2.4] and 66% *vs* 55% [adjusted OR=2.2, 95% CI=1.3–3.7]), respectively. Hispanics also were less likely than non-Hispanic whites to cite lack of a doctor's recommendation as a reason for not receiving pneumococcal vaccination (8% *vs* 13% [adjusted OR=0.5, 95% CI=0.20.9]). Non-Hispanic blacks were less likely than non-Hispanic whites to report thinking influenza vaccination could cause side effects as a reason for nonvaccination (11% versus 16% [adjusted OR=0.7, 95% CI=0.5–0.9]).

Reported by: D. Drociak, School of Public Health, University of South Carolina, Columbia, South Carolina. Office of Strategic Planning, Health Care Financing Administration, Baltimore, Maryland. Adult Vaccine-Preventable Diseases Branch, Epidemiology and Surveillance Division, National Immunization Program, CDC.

Editorial Note: This study is the first nationally representative survey to assess Medicare beneficiaries' reasons for not receiving vaccinations. In 1996, the influenza vaccination level reported by Medicare beneficiaries aged ≥65 years exceeded 60%, the national objective for 2000 (objective 20.2). Although influenza and pneumococcal vaccinations are available at no charge to Medicare beneficiaries, approximately half had not received pneumococcal vaccination, and nearly one third reported receiving neither vaccination. Self-reported influenza and pneumococcal vaccination levels from the 1996 MCBS were consistent with estimates reported by the 1997 Behavioral Risk Factor Surveillance System and higher than levels reported by the 1995 National Health Interview Survey.[4] This report also documents lower vaccination levels among racial/ethnic minority groups than among non-Hispanic whites; however, observed differences in reasons for nonvaccination cited by non-Hispanic whites compared with persons in other racial/ethnic groups were relatively small and may be unimportant when planning interventions to improve vaccination levels for specific racial/ethnic groups.

The reasons reported by this national sample of Medicare beneficiaries for not receiving influenza or pneumococcal vaccination were consistent with previously reported data that indicated a lack of knowledge, misconceptions about vaccines and vaccine-associated illnesses, and lack of recommendations from physicians.[6–8] In 1996, lack of knowledge and lack of physician recommendations were the predominant reasons cited by Medicare beneficiaries for not receiving pneumococcal vaccination; 57% of beneficiaries who reported not receiving pneumococcal vaccination, ie, 31% of the total 1996 Medicare population aged 265 years, were unaware that this vaccination was recommended.

Because physicians provide the greatest proportion of vaccinations to Medicare beneficiaries (Health Care Financing Administration, unpublished data, 1999), the 26% of beneficiaries who received influenza but not pneumococcal vaccination indicates that physicians miss opportunities to vaccinate older persons during office visits. Because physicians' recommendations for influenza and pneumococcal vaccination are accepted by patients even when they have negative perceptions about the vaccinations,[7] health-care providers should include patient education with vaccination recommendations during scheduled appointments.

The findings in this study are subject to at least three limitations. First, reasons reported for nonvaccination may differ depending on how questions were asked (ie, if respondents had been provided with a response list, the frequency of responses in different categories, such as lack of physician recommendation for vaccination, may have changed). Second, self-reports of influenza vaccination may be more reliable than self-reports of pneumococcal vaccination.[9] Third, survey responses were not validated by medical record review.

For 2010, the proposed national objective for influenza and pneumococcal vaccination levels for high-risk persons is 90%, a 30% increase from the 2000 level <http://web.health.gov/healthypeople/2010Draft/object.htm>.[†] To achieve this level, public, private, and community health-care providers must increase awareness of the need for vaccination and must reduce missed opportunities among older persons. The Initiative to Eliminate Racial and Ethnic Disparities in Health by 2010, which includes adult vaccination activities <http://raceandhealth.hhs.gov>, has been implemented by CDC and other federal agencies. Effective mechanisms to improve vaccination of adults should be implemented, including physician and patient education coupled with provider and patient reminders and recalls, standing orders for vaccination, and feedback to providers on vaccination levels.[10] Local public health planners should seek guidance from national survey data such as those from the MCBS and design surveys to identify interventions that address the reasons why older adults in their communities are not vaccinated.

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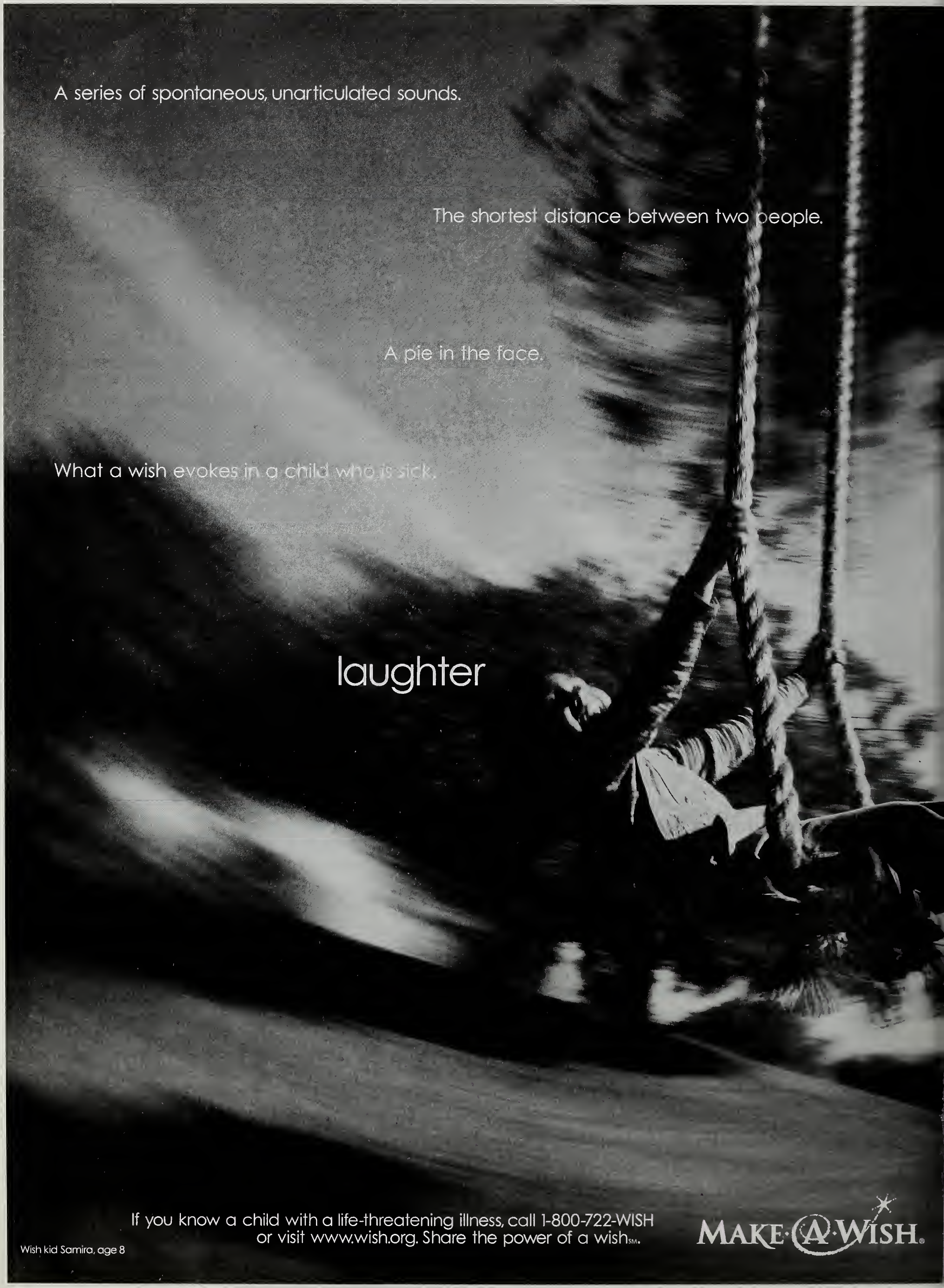
[†] References to sites of non-CDC organizations on the World-Wide Web are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of pages found at these sites.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Outbreaks of *Salmonella* Serotype Enteritidis Infection Associated with Eating Raw or Undercooked Shell Eggs —United States, 1996–1998

DURING the 1980s and 1990s, *Salmonella* serotype Enteritidis (SE) emerged as an important cause of human illness in the United States. The rate of SE isolates reported to CDC increased from 0.6 per 100,000 population in 1976 to 3.6 per 100,000 in 1996 (Fig. 1). Case-control studies of sporadic infections and outbreak investigations found that this increase was associated with eating raw or undercooked shell eggs.[1] From 1996 to 1998, the rate of culture-confirmed SE cases reported to CDC declined to 2.2 per 100,000; however, outbreaks of illness caused by SE continue to occur. This report describes four SE outbreaks during 1996–1998 associated with eating raw or undercooked shell eggs and discusses measures that may be contributing to the decline in culture-confirmed SE cases.

Los Angeles County, California

In August 1997, the Los Angeles County Department of Health Services (LACDHS) received reports of gastrointestinal illness in members of a Girl Scout troop and some of their parents. The ill persons had eaten food prepared in a private residence by the scouts. Stool cultures taken from 12 ill persons yielded SE; selected isolates tested were phage type 4.

An investigation by LACDHS found that of 17 persons at the dinner, 13 had gastrointestinal illness consistent with salmonellosis. Cheesecake served at the dinner was associated with illness; all 13 ill persons and two well persons ate the cheesecake (attack rate=87%; relative risk [RR]=undefined; P=0.04). The cheesecake contained raw egg whites and egg yolks that were cooked in a double boiler until slightly thickened. California Department of Health Services and Department of Food and Agriculture investigated the farm that supplied the eggs and found SE contamination. Of 476 environmental cultures taken from manure, feed, and water, 21 (4.4%) yielded SE; all positive cultures were from manure. Nineteen isolates were phage type 4, and two were phage type 7. SE also was isolated from one (0.5%) of 200 pooled egg samples obtained at the farm. On the basis of these findings, the layer flock was depopulated to prevent further SE cases.

District of Columbia

In October 1997, the District of Columbia Bureau of Epidemiology and Disease Control (DCBEDC) received reports of gastroenteritis among 75 attendees at seven events (a workshop dinner, nursing home luncheon, and five meals in private residences) at which lasagna from the same commercial manufacturer was served. Forty-three cases of illness compatible with salmonellosis were identified among attendees. Stool cultures from nine patients yielded *Salmonella* group D or SE; at least one culture-confirmed case was associated with each event. Isolates tested from attendees at five events were phage type 8. Three patients were hospitalized; none died.

DCBEDC interviewed 48 of the 75 attendees. Of the 47 persons who ate lasagna at the events, 39 became ill; the only person who did not eat lasagna did not become ill (attack rate=83%; RR=undefined; p=0.19). Lasagna was not associated statistically with illness but was implicated because it was the only food item common to all events. Cultures of two leftover lasagnas and one lasagna made on the same day but not eaten yielded SE phage type 8. The lasagnas were prepared commercially by a company in Gaithersburg, Maryland, using fully cooked meat or spinach sauce and a mixture of raw shell eggs, ricotta and mozzarella cheeses, and spices. Although the lasagnas were not labeled with a manufacture date, investigators determined that most, if not all, of the lasagnas implicated were made on the same day from a single batch of the egg-cheese mixture. The product was then frozen (except for one event in which the lasagnas were kept refrigerated as a special order) and held without further cooking until purchased. In at least four of six events for which lasagnas were purchased frozen, the lasagna was not thawed before reheating.

A traceback investigation led to two egg processors. Sampling of the farms that supplied eggs to these processors showed that five of 13 poultry houses had environmental samples positive for SE. In compliance with rec-

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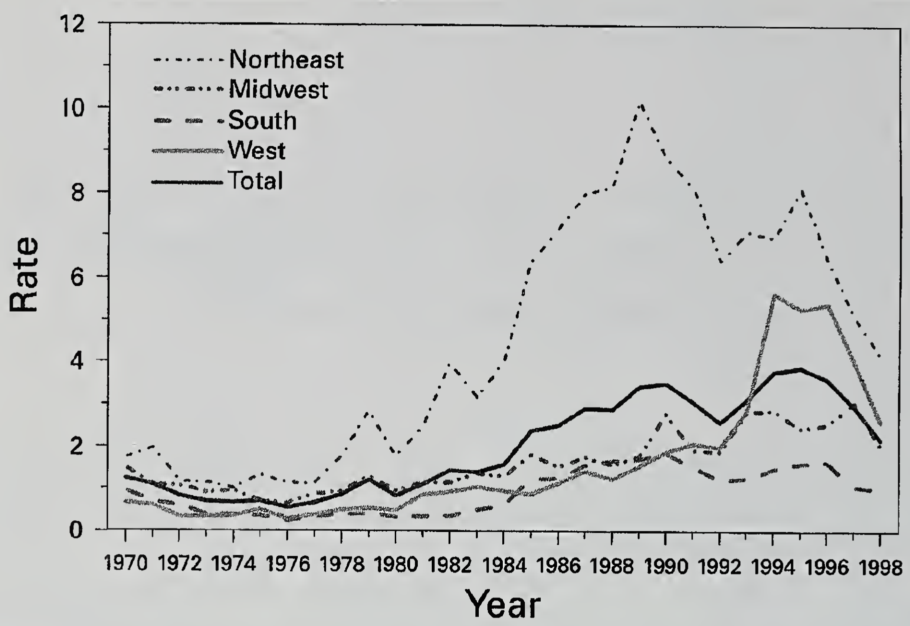
Reprinted from the *Morbidity and Mortality Weekly Report*, 4 February 2000; vol. 49, no. 4, Centers for Disease Control (CDC), National Institute for Health (NIH).



***Per 100,000 population.**

†Northeast = Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; Midwest = Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; *South* = Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; *West* = Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Figure 1.—Rate* of isolation of *Salmonella* serotype Enteritidis, by region† and year—United States, 1970–1998

ommendations from DCBEDC, the manufacturer voluntarily switched to using pasteurized eggs in egg-containing foods.

Clark County, Nevada

In November 1997, 91 persons who ate either of two meals served two weeks apart at a hotel restaurant in Las Vegas, Nevada, developed gastroenteritis. Fifteen patients were hospitalized; none died. Stool cultures taken from ill persons yielded SE; selected isolates tested were phage type 13A.

An investigation by the Clark County Health District found 28 culture-confirmed and 63 probable salmonellosis cases. A case was defined as diarrheal illness in a patient who ate at restaurant A on November 13 or November 27. Two separate case-control studies implicated broccoli with hollandaise sauce: one study among persons who ate at the restaurant on November 13 (odds ratio [OR]=25.5; P=0.04) and a second among persons who ate at the restaurant on November 27 (OR=27.8; P=<0.001). Broccoli with hollandaise sauce was offered on a special menu that rotated biweekly. The hollandaise sauce was prepared from pooled shell eggs, cooked to a temperature inadequate to kill SE, and kept at room temperature for several hours until served.

Maricopa County, Arizona

In July 1998, 58 persons developed gastroenteritis associated with eating at any of four Mexican restaurants that were part of a local chain. Eleven persons were hospitalized; none died. Stool cultures taken from 22 persons yielded *Salmonella* group D or SE; selected isolates tested were phage type 6A.

An investigation by the Maricopa County Environmental Services Department found that 14 (64%) of the 22 persons with culture-confirmed infections had eaten chiles rellenos, a precooked commercial product. Cultures of chiles rellenos from all four restaurants yielded SE with the same phage type as the patient isolates. The chiles rellenos consisted of raw egg-white batter on roasted green chile peppers stuffed with cheese, and were commercially processed in Mexico where they were cooked, packed, and frozen. Local public health officials observed that the internal temperature of the chiles rellenos was not checked after reheating at the restaurants. Improper foodhandling and cross-contamination were presumed responsible for the other cases among persons who did not consume chiles rellenos. Cultures of chiles rellenos from other lots distributed in the United States also yielded SE. The distributor of the chiles rellenos voluntarily recalled all products.

Reported by: R. Reporter, M.D., L. Mascola, M.D., Acute Communicable Disease Control Unit, L. Kilman, Bacteriology Public Health Laboratory, A Medina, Food and Milk Program, Environmental Health Services, Los Angeles County Department of Health Services, Los Angeles; J. Mohle-Boetani, M.D., *J. Farrar, D.V.M., D. Vugia, M.D., Acting State Epidemiologist, California Dept of Health Services. M. Fletcher, Ph.D., M. Levy, M.D., Bureau of Epidemiology and Disease Control, District of Columbia Department of Health. O. Ravenholt, M.D., L. Empey, D. Maxson, P. Klouse, A. Bryant, Clark County Health District, Las Vegas, R. Todd, Dr.PH., State Epidemiologist, Nevada State Health Division. M. Williams, Maricopa County Health Department, Phoenix; G. Cage, M.S., L. Bland, M.P.H., Acting State Epidemiologist, Arizona Department of Health Services. Foodborne and Diarrheal Diseases Branch, Division of Bacterial and Mycotic Diseases, National Center for Infectious Diseases; and EIS officers, CDC.*

Editorial Note: SE was recognized as a public health problem in northeastern states during the 1980s and has since spread throughout the United States.[1] During 1985–1998, state and territorial health departments reported 796 SE outbreaks that accounted for 28,689 illnesses, 2839 hospitalizations, and 79 deaths (Table 1). Of the 360 SE outbreaks with a confirmed source, 279 (82%) were associated with raw or undercooked shell eggs. This report illustrates that outbreaks can occur because of breakdowns in procedures at multiple steps in egg production from farm to table. SE prevention measures include on-farm control programs, refrigeration, consumer and food worker education about food preparation and consumption, adoption of the Food and Drug Administration (FDA) Food Code[2] in restaurants and institutions, and improved surveillance.

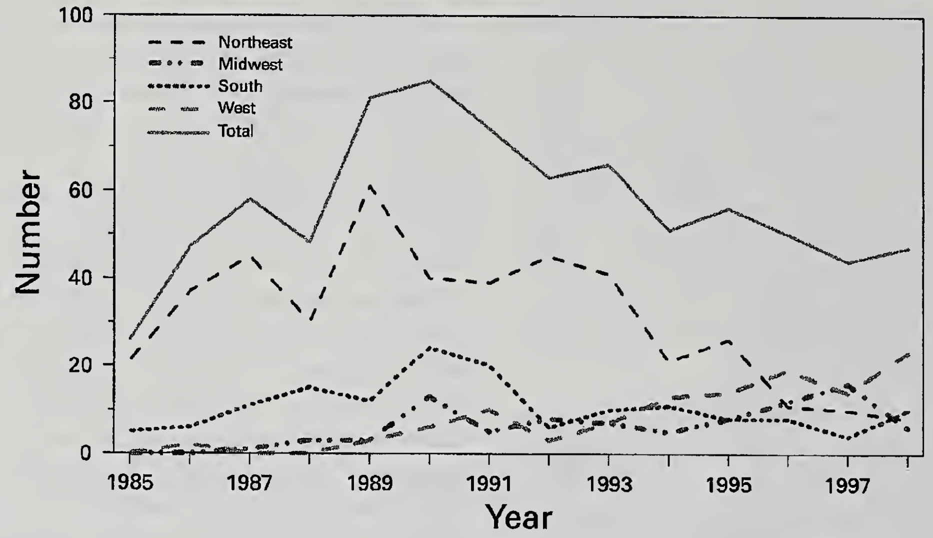
On-farm control measures may include actions resulting from egg traceback investigations and quality assurance programs (QAPs). When eggs are implicated in SE outbreaks, state health departments and/or FDA may conduct tracebacks to identify the source farm(s) and conduct environmental sampling of poultry houses to detect SE. When SE is detected in a house, eggs are voluntarily diverted to pasteurization facilities until egg testing has shown negative results for SE. Tracebacks have been successful in removing potentially contaminated eggs from the market. During the early 1990s, the U.S. Department of Agriculture (USDA), the egg industry, state departments of agriculture, and academia collaborated to design QAPs.[3] Elements may include purchasing chicks from SE-monitored breeders, stringent rodent and pest control, cleaning and disinfecting hen houses, routine environmental cultures with diversion of eggs to pasteurization if SE is found, and proper refrigeration of eggs. Currently, 13 states participate in voluntary QAPs.[4] Northeastern states were the first to implement such QAPs. The decrease in SE outbreaks from 61 in 1989 to eight in 1998 (Figure 2), and in sporadic cases in the region may reflect these collaborative preventive efforts.

Ensuring that eggs are sold soon after being produced and that they are kept refrigerated are important steps in reducing egg-associated SE illness. Although required in 17 states, no federal law exists that requires an expiration

Table 1.—Characteristics of all outbreaks of *Salmonella* serotype Enteritidis infection and outbreaks in health-care facilities, by year—United States, 1985–1998

	All outbreaks						Outbreaks in health-care facilities*					
			Hospitalizations		Deaths				Hospitalizations		Deaths	
Year	No. outbreaks	No. ill	No.	(%)	No.	(%)	No. outbreaks	No. ill	No.	(%)	No.	(%)
1985	26	1,159	144	(12)	1	(0.09)	3	55	10	(18)	1	(2)
1986	47	1,444	107	(7)	6	(0.42)	6	96	10	(10)	5	(5)
1987	58	2,616	557	(21)	15	(0.57)	8	489	391	(80)	14	(3)
1988	48	1,201	155	(13)	11	(0.92)	8	227	6	(3)	9	(4)
1989	81	2,518	206	(8)	15	(0.60)	19	505	34	(7)	13	(3)
1990	85	2,656	318	(12)	3	(0.11)	12	265	22	(8)	3	(1)
1991	74	2,461	200	(8)	5	(0.20)	8	118	6	(5)	4	(3)
1992	63	2,348	233	(10)	4	(0.17)	2	42	2	(5)	2	(5)
1993	66	2,215	219	(10)	6	(0.27)	6	66	5	(8)	4	(6)
1994	51	5,492	214	(4)	0	—	2	32	6	(19)	0	—
1995	56†	1,312	113	(9)	8	(0.61)	6	147	19	(13)	6	(4)
1996	50	1,460	159	(11)	2	(0.14)	3	64	9	(14)	0	—
1997	44	1,098	124	(11)	0	—	1	13	1	(8)	0	—
1998	47	709	90	(13)	3	(0.42)	3	32	6	(19)	3	(9)
Total	**796**	**28,689**	**2,839**	**(10)**	**79**	**(0.28)**	**87**	**2,151**	**527**	**(25)**	**64**	**(3)**

*Includes hospitals and nursing homes.
†Includes one outbreak associated with a Komodo dragon exhibit at a zoologic park.



**Northeast* = Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; Midwest=Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; *South* = Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; *West* = Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

†n=796.

Figure 2.—Number of *Salmonella* serotype Enterrtidis outbreaks, by region* and year—United States, 1985–1998†

or "sell-by" date on egg cartons. Currently, USDA requires that eggs be stored and transported at ≤45 F (≤7.2 C) and that consumer containers be labeled to indicate that refrigeration is required.[5] A proposed rule scheduled to be finalized in 2000 by FDA also would require that eggs sold at retail stores be refrigerated at ≤45 F (≤7.2 C).[6]

The education of consumers and food service workers to store, handle, and cook eggs appropriately can prevent many SE infections in humans (see box). FDA has a proposed rule that would require safe handling messages on all egg cartons.[6] FDA's Food Code for retail food stores, food service establishments, nursing homes, and day care centers recommends that pasteurized eggs be substituted for raw shell eggs in preparing foods such as Caesar salad, hollandaise sauce, ice cream, and egg-fortified beverages that are not cooked.[2] The outbreaks described in this report could have been prevented if pasteurized eggs had been used or if the eggs used in the recipes had been cooked fully. FDA's Food Code recommendations are especially important for children, the elderly, immunocompromised persons, and pregnant women who are at increased risk for severe complications from SE infection. The effectiveness of these recommendations and education efforts are demonstrated by the decline in the number of deaths in health-care facilities, particularly nursing homes (Table 1).

Throughout the 1980s, SE phage type 4 emerged as the predominant phage type in Europe, causing a marked increase in human infections. Phage type 4 had not been seen in the United States except among persons who became ill after international travel. In 1993, the first U.S. outbreak of SE phage type 4 infections occurred in Texas,[7] and during the next several years, phage type 4 caused human illness in Arizona, California, Hawaii, Nevada,

Recommendations for Preventing *Salmonella* Serotype Enteritidis Infections Associated with Eating Raw or Undercooked Shell Eggs

- Eating raw or undercooked eggs should be avoided, especially by young children, the elderly, and immunocompromised persons.
- In hospitals, nursing homes, food service establishments, day care centers, elementary schools, and commercial kitchens, pasteurized egg products should be used in recipes that call for pooled eggs or in which eggs are not thoroughly cooked.
- Eggs should be cooked at ≥145 F (≥63 C) for ≥15 seconds (until both the yolk and white are firm) and eaten promptly after cooking. Casseroles and other dishes containing eggs should be cooked to 160 F (71 C).
- Hands, cooking utensils, and food-preparation surfaces should be washed with hot water and soap after contact with raw eggs or foods containing raw eggs.
- Eggs should be stored at ≤45 F (≤7.2 C) at all times.

and Utah. Since then, the isolation rate and number of SE outbreaks in the western United States have increased dramatically; most of these outbreaks have been phage type 4. SE phage type 4 also has been isolated from eggs and the farm environment of laying flocks implicated as sources for human outbreaks in that region.[8] CDC monitors the spread of phage type 4 by phage typing isolates from U.S. outbreaks of SE and sporadic cases.

Further reductions in SE incidence and SE-related outbreaks will require multiple interventions along the entire farm-to-table continuum. To address SE prevention issues, on 10 December 1999, the President's Council on Food Safety announced an Egg Safety Action Plan, which calls for a 50% reduction in egg-associated SE illnesses by 2005.[9] The plan's objectives are aimed at reducing consumer exposure to SE-containing foods; expanding and upgrading surveillance systems for human and poultry SE infection; improving communication among federal, state, and local agencies to accelerate SE outbreak detection and initiation of investigations; conducting research; and educating persons using science-based materials.

Additional information about preventing SE infections associated with eating raw or undercooked shell eggs is available on the World-Wide Web at http://www.cdc.gov/ncidod/dbmd/diseaseinfo/salment_g.htm; http://vm.cfsan.fda.gov/~dms/fs-eggs.html; http:/vm.cfsan.fda.gov/~dms/fs-eggs2.html; and http://www.foodsafety.gov/~fsg/ceggs. html.

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Infliximab *(Remicade)* for Crohn's Disease

INFLIXIMAB *(Remicade*—Centocor), a monoclonal antibody that inhibits tumor necrosis factor (TNF), has received an accelerated approval from the FDA for intravenous treatment of moderate to severe Crohn's disease refractory to other medical treatment. Its use in rheumatoid arthritis, not approved by the FDA, was discussed in an earlier issue (*Medical Letter* 1998; 40:110, 20 November).

MECHANISM OF ACTION—Tumor necrosis factor alpha (TNFα), a proinflammatory protein produced by immune cells, is believed to play a major role in the pathogenesis of the chronic inflammation associated with Crohn's disease (Baert FJ, et al: *Gastroenterology* 1999; 116:22, January). Infliximab is a human/murine chimeric monoclonal antibody that binds specifically to membrane-bound and soluble TNFa.

PHARMACOKINETICS—Infliximab given in a single 5 mg/kg infusion has a half-life of about 10 days. The drug does not accumulate when given in three doses at two- to four-week intervals or in repeated doses at eight-week intervals. How it is metabolized and excreted are unknown.

CLINICAL TRIALS—A multicenter, randomized, double-blind 12-week trial compared a single infusion of infliximab (5, 10, or 20 mg/kg) with placebo in 108 patients with refractory, moderate to severe Crohn's disease who continued to take their previous drugs. After four weeks, a clinical response occurred in 22 of 27 patients (81%) given 5 mg/kg, 14 of 28 (50%) given 10 mg/kg, and 18 o,f 28 (64%) given 20 mg/kg, compared to four of 24 (17%) given placebo. Among the patients treated with 5 mg/kg of the drug, 13 (48%) went into remission, compared to one of 25 (4%) of those given placebo. After 12 weeks, 34 of the 83 patients (41%) treated with the drug still had a clinical response, compared to three of the 25 (12%) treated with placebo (Targan SR, et al: *N Engl J Med* 1997; 337:1029).

Another study in 94 patients with fistulizing Crohn's disease compared three infusions of the drug (5 or 10 mg/kg) at zero, two, and six weeks with placebo. With 5 mg/kg, 21 of 31 patients (68%) had a ≥ 50% reduction in the number of draining fistulas for two consecutive monthly visits, compared to eight of 31 (26%) treated with placebo. The response to infliximab usually occurred within two weeks of the first infusion, and lasted a median of at least three months (Present D, et al: *Am J Gastroenterol* 1997; 92:1746, abst. 648).

A study of multiple maintenance infusions with 10 mg/kg at eight-week intervals in 73 patients who had initially responded to a single infusion found that after 44 weeks, 66% of patients given infliximab still had a clinical response and 51% remained in remission, compared to 35% and 21% given placebo (Rutgeerts P, et al: *Gastroenterology* 1997; 112:A1078).

ADVERSE EFFECTS—Infliximab is generally well tolerated. The most common adverse effect has been nausea (17%). Some patients on the drug developed severe infections, which were controlled with antibiotics. Infusion reactions have been reported with chest pain, nausea, fever, facial flushing, headache, urticaria, dyspnea, and, hypotension. In 40 patients who were retreated with infliximab after a long interval (two to four years), 10 (25%) reported serum-sickness-like symptoms three to 12 days after infusion; some of these patients required hospitalization and corticosteroid treatment. Whether long-term use of tumor necrosis factor inhibitors such as infliximab could increase the incidence of other autoimmune diseases, serious infections or malignancy is unclear. Development of double-stranded DNA antibodies and, rarely, a lupus-like syndrome have been reported with infliximab. Lymphomas have occurred in some rheumatoid arthritis and Crohn's disease patients treated with the drug, but patients with autoimmune diseases, especially those treated with immunosuppressive drugs, generally have an increased incidence of lymphoma, making it difficult to determine cause and effect. Infliximab should not be used during pregnancy.

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DOSAGE AND COST—*Remicade* is available in single-dose vials, each containing 100 mg of the drug. Infliximab is given as a single 5 mg/kg infusion over at least two hours. For fistulizing disease, the infusion is repeated twice more, once after two weeks and again after six weeks. The cost to the pharmacist of the drug alone for a single dose of 5 mg/kg for a 70-kg patient is $2,380, according to *Drug Topics Red Book Update,* February 1999.

CONCLUSION—Infliximab given once intravenously or three times over a period of six weeks can produce a clinical response and sometimes a complete remission, including the closing of fistulas, in adults with moderate to severe Crohn's disease refractory to other drugs. Within three months, however, many patients relapse, and the effectiveness and safety of maintenance infusions remain to be determined. Infliximab is generally well tolerated, but infusion reactions can occur, including serum sickness after re-exposure, and the possibility remains that prolonged use could lead to serious infections or lymphoma.

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From *The Connecticut State Medical Journal*

March 1950

Nutritional Requirements for the Surgical Patient

JONATHAN E. RHOADS, M.D., *Philadelphia*

The Author. *Professor of Surgery and J. William White Professor of Surgical Research, School of Medicine, University* of *Pennsylvania*

IT is perhaps not altogether logical to separate surgical patients from others in a consideration of nutritional requirements. It has been done, however, because several groups of patients presenting special nutritional problems occur frequently on surgical wards and because attention to the nutritional requirements of these patients has resulted in striking improvement in the results.

The patient groups particularly affected are: 1) Those with protein deficiencies due to inability to ingest adequate quantities of appropriate foods, such as those with pyloric obstruction. 2) Those with abnormal losses of protein containing fluids, such as those with small bowel fistulae and those with extensive superficial burns. 3) Those who are unable to absorb food, as in cases of gastrojejunocolic fistula.

In considering the nutritional requirements of surgical patients, we will exclude water and electrolyte requirements as such and assume that they have been adequately provided for. Unfortunately, it is not possible to outline a single nutritional regime which is applicable to all types of surgical patients. Instead of discussing the requirements of the various categories of surgical patients separately, it has seemed best to consider nutritional requirements on the basis of the several food components: vitamins, carbohydrates, fat, and protein.

VITAMINS

Vitamin A occurs fairly commonly in nature and can be produced in the body from carotene. It requires bile salts for its absorption in the experimental animal as shown by Greaves and Schmidt.[1] Therefore, in prolonged bile salt deficiency or obstructive jaundice, it is well to be on the alert for signs of vitamin A deficiency. It must be admitted, however, that surgeons have generally paid little or no attention to the administration of vitamin A and it is seldom that any outspoken signs of A deficiency are recognized.

The vitamin B complex has now been broken down into a large number of components: Thiamine chloride is perhaps the most important of all of the vitamins from a practical standpoint. This is true partly because of the far reaching effects of thiamine deficiency and partly because the American dietary is estimated to contain an average of only one hundred and sixty per cent of the basal requirement. This means that with the normal distribution curve for thiamine chloride intakes, it will not be infrequent that actual dietary deficiency is encountered. It is also of particular importance in surgical patients because the requirement is increased by fever, at times, by as much as one hundred per cent. The requirement may also be doubled by hyperthyroidism and, of course, when considerable fever is superimposed on hyperthyroidism, the requirement is likely to be higher than with either condition alone. Thus, in thyroid storm, an adequate intake of thiamine is particularly necessary. The basal requirement for thiamine chloride is estimated at one to two milligrams per day, probably closer to the former level. The current practice of prescribing five, ten and twenty milligrams of thiamine, one to three times a days is not justified by quantitative observations or animal experimentation. We have no evidence that an excess of thiamine is advantageous but it does not seem to be harmful.

Vitamin B complex deficiency causes marked disturbances in the intestinal tract with a delayed gastric emptying[2] and anorexia as perhaps the most obvious changes. Some clinicians feel that thiamine should be given parenterally for a short time after a period of thiamine deficiency. After appetite is restored it may be given by mouth. It

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Reprinted from the *Connecticut State Medical Journal*, March 1950.

Presented before the 24th Clinical Congress of the Connecticut State Medical Society, New Haven, September 14, 1949.

From the Harrison Department of Surgical Research, Schools of Medicine, University of Pennsylvania and the Surgical Clinic of the Hospital of the University of Pennsylvania, Philadelphia.

should be remembered that serious allergic reactions have been reported following the intravenous use of thiamine chloride, though these must be rather rare.

Riboflavine deficiency and nicotinic acid deficiency not infrequently occur in association with a deficiency of thiamine. It has been stated that rhagades is characteristic of riboflavine deficiency. The lack of nicotinic acid causes pellagra which, if untreated, may yield the classical symptoms—dermatitis, diarrhea, dementia, leading to death. Occasionally, one sees the diarrhea and dementia without any very pronounced dermatitis. These cases are often not recognized in time to correct the condition. While a need for the other B vitamins is present in surgical patients, as in patients in other categories, their lack has constituted a serious problem so seldom in surgical patients as to have attracted comparatively little attention as yet. Choline may be valuable in patients who have had pancreatectomy to prevent fatty degeneration of the liver. B12 will be of help in occasional patients with primary pernicious anemia requiring surgical treatment for other conditions and to those patients who develop macrocytic anemia after total gastrectomy.

Vitamin C, another of the water soluble vitamins, has of course an important place in surgical therapy. This is true primarily because of its influence on wound healing. In the absence of adequate supplies of vitamin C, there may be an actual failure in wound healing due apparently to an inability of the organism to provide the normal intercellular cement substance. Fibroplasia proceeds satisfactorily but the fibroblasts do not apparently adhere to each other and to the surrounding tissues adequately. In severe cases of scurvy, it is stated that wounds which have been healed for considerable periods may reopen. While Lanman and Ingalls[3] and others have demonstrated convincingly the weakness of wounds in experimental animals who are maintained on a diet deficient in vitamin C, the evidence that the milder C deficiencies predisposes to wound disruption is less clear. In a careful experiment, Crandon, Lund and Dill[4] studied wounds in a human volunteer maintained on a C deficient diet. With mild reductions in the vitamin C level, no interference with wound healing occurred, either histologically or as determined by tensile strength tests. On the other hand, as the deprivation of vitamin C continued and the concentration of the vitamin in the leukocytic cream declined, interference with wound healing did supervene. In a series of twenty patients with wound disruption studied in Detroit a few years ago by Hartzell, Winfield, and Irwin,[5] ninety-five per cent showed C deficiency on analysis of the blood serum.

Various authors have suggested that C deficiency predisposed to bleeding from peptic ulcers and that the bleeding peptic ulcer did better if large amounts of vitamin C were provided. While this practice is now rather common, there does not appear to be as much supporting evidence in confirmation of it as one might like to have. The normal individual requires approximately fifty milligrams of vitamin C per day for health, and one hundred milligrams probably represents a very safe margin for therapy under most conditions. However, Lund[6] has shown that in patients who are severely ill and particularly those with extensive second and third degree burns, the demand for vitamin C may be greatly increased. By doing vitamin C saturation studies, Lund showed that such individuals might require about one thousand milligrams of ascorbic acid per day and that it might be necessary to prescribe a dose of two thousand milligrams daily in order to resaturate such patients promptly after periods of depletion.

The body reserves of vitamins B and C are small and it would seem to be good surgical practice to provide the major B components and vitamin C in one form or another for all patients on surgical wards. Many of these patients will receive sufficient in their diet but those who are receiving no food by mouth for several days should receive the vitamins parenterally.

Vitamin D is necessary in pediatric surgery as in medical pediatrics for the prevention of rickets. It has another very valuable function in surgery. In large doses (four hundred thousand to one million units per day), it is capable of raising the blood calcium and may be used to maintain patients who have lost the function of their parathyroid glands, either through surgical accidents in the course of thyroidectomy or in some other way. Large doses of oral calcium are employed and these seem to reduce the requirement of the body for vitamin D. In this capacity, vitamin D acts very much like dihydrotachysterol. Some patients have a better response to one preparation and some to the other. It has been the practice in the endocrine clinic at the Hospital of the University of Pennsylvania to try both preparations and to use the one which is most economical for the particular individual. In the treatment of thyroid cancer, it is now sometimes possible to be much more radical in the knowledge that parathyroid deficiency is not necessarily fatal than was the case before these two preparations were available.

Vitamin E, or alpha-tocopherol, was first described as a vitamin essential to normal reproductive function in some of the smaller animals. It is widely distributed in nature and vitamin E has been used by Scott[7] in the treatment of Peyronie's disease. It has also been employed in some cases of Dupuytren's contracture where apparently it may sometimes have a good effect. What its future role in surgical patients may be is not at present predictable, but when more is understood of the underlying basis of these two conditions and of the effect of alphatocopherol upon them, it may be possible to extend the field of usefulness of vitamin E considerably further.

Vitamin K has had a revolutionary effect on the surgery of the jaundiced patient. It has been useful in handling various other patients with hypoprothrombinemia and, of all the vitamins, probably has its most specific field of usefulness in surgery. Its precise activity is not known but it is evidently necessary for the formation of prothrombin. Normally, the individual ingests an ample supply in his food as it is commonly present in many green vegetables and certain other food substances. In the event that a sufficient supply is not received in this way, most individuals find the flora of the intestinal tract a sufficient source, because a number of the intestinal organisms synthesize the vitamin. Most cases of K deficiency in man result from failure of absorption of the vitamin due to a lack of bile salts. It is now known that there are a number of related substances which share the activity of vitamin K1, the natural form occurring in green plants (zmethyl-3-phytyl-l, 4-naphthoquinone). Some of the synthetic preparations are sufficiently water soluble so that they do not require bile salts for their absorption. However, in many of the circumstances in which the vitamin is used orally, bile salts are helpful for other reasons and should be administered.

In patients with severe liver damage, even though vitamin K is received by the patient and absorbed, the prothrombin may remain at a low level, For this reason, vitamin K has not resulted in the complete disappearance of hypoprothrombinemia and this condition still remains a problem in clinical surgery.

Vitamin P, or the permeability vitamin described by Szent-Gyorgyi,[8] has been tried by surgeons to reduce capillary fragility but cannot be said to have achieved an established place in surgical therapy as yet.

CARBOHYDRATES

Carbohydrates, while a slightly emphasized factor in the nutrition of surgical patients, comprise quantitatively the largest fraction of the dietary. They achieve a peculiar importance, of course, in diabetics and the frequency of diabetes has made it almost essential that every surgeon have an elementary knowledge of its management during periods of acute infection and surgical intervention.

We have found it a good working rule, under these conditions, to abandon the use of protein zinc insulinate and the other slower acting forms of insulin and to use regular insulin in liberal doses liberally covered with glucose administered parenterally. Frequently, the insulin and glucose are mixed in the same flask and both given intravenously. While some objection to this method has been expressed from time to time, we have seldom seen any difficulty result. An allowance of at least two grams of glucose per unit of insulin is routine and a larger allowance is usually made in the case of mild diabetics. Some fear has been expressed that the effect of the insulin will last longer than the effect of the glucose. It is possible, of course, to continue the administration of glucose somewhat longer than the administration of insulin though this has seldom been necessary in our experience.

This rough and ready management of diabetes is intended only to get the patient through acute phases of various surgical diseases. On such a regime he will run a high blood sugar but it is usually possible to free the urine of acetone and diacetic acid, and to avoid insulin shock completely. When the acute crisis has passed, the help of a physician who specializes in the management of diabetes is usually needed to achieve the precise regulation of diet, protamine zinc insulin and regular insulin which will enable the patient to live with normal or near normal blood sugar levels. It is, however, our feeling that no such precise regulation is possible in the presence of recent extensive surgical intervention or in the case of extensive infection. The effort to achieve such fine adjustments too soon has all too often resulted in insulin shock, sometimes of alarming severity.

One of the vital functions of carbohydrate is, of course, to spare protein. The demand for protein is unusually high in most groups of surgical patients and particularly among those who have been operated upon recently. In patients who must be nourished parenterally, the amount of protein which can be given is necessarily limited and unless sufficient food is provided to meet the caloric requirement of the patient, much of the protein received may be used to meet caloric requirements and may, therefore, not serve the purpose for which it was intended. A liberal caloric intake is, therefore, a prerequisite if proper utilization of protein or protein derivatives is to be made possible.

Another important function of carbohydrate in the diet is, of course, to prevent ketosis resulting from the combustion of fats. While there is still some disagreement as to the precise manner in which the fat molecule is oxidized, there is general agreement that acetone bodies will appear if the fat is metabolized in the absence of carbohydrate. Apart from the problem of the diabetic, this is important during periods of starvation, especially in children.

FAT

Many years ago, it seemed to nutritionists that while fat was a normal constituent of the diet, probably carbohydrate and protein were the major requirements and could, at least to a very large extent, be substituted for fat. Fat is the most concentrated of our foods yielding about nine calories per gram, as compared with four calories per gram for carbohydrate and protein and approximately seven calories per gram for ethyl alcohol. Thus, the diet made up without any fat tends to be bulky and is almost invariably unpalatable. The common meat sources of protein contain considerable amounts of fat and the preparation of a diet low in fat is at times a difficult matter. Such diets have a special role in the preparation of the liver for resistance to injury. Effectiveness of diets of this type have been demonstrated for injury due to chloroform in the rat and for injury due to arsphenamine and selenium. In the regeneration of the liver, however, Vars and his associates[9] have found that on a standard intake of protein the addition of fat accelerates regeneration and, therefore, there is some reason to believe that a moderate amount of fat should be included in the postoperative diet of patients recovering from hepatic disease or from operation on the biliary tract.

PROTEIN

As surgical procedures are for the most part destructive to tissue, and as wound healing is the prerequisite of success after operation, it is not surprising that protein is of major importance to the surgical patient. Hypoproteinemia has a deleterious effect on wound healing,[10] a deleterious effect on gastric emptying,[11] on gastro-intestinal motility,[12] on the formation of callus after experimental fracture,[13] on the resistance of the individual to blood loss,[14] and, as Cannon[15] has shown so clearly, on resistance to infection. Thus, the hypoproteinemic patient who must undergo surgery faces many handicaps from which he may be protected if the protein deficiency can be corrected quickly and lastingly.

Where patients have an appetite and food is available, protein deficiency seldom appears. It is not unnatural, therefore, to find many of the more striking instances of it among patients with gastrointestinal complaints. The condition is not limited, however, to them and tends to occur after almost all extensive operative procedures, if intake is limited for some time. Several methods have been developed to help patients in this category. Where the anorexia is not accompanied by organic lesions, it may frequently be overcome by a combination of thiamine administration, appetizing food, and encouragement. Where all oral intake must be stopped, as during the early postoperative period after gastric operations, various other means may be used. The Abbott Rawson tube placed either through the mouth or introduced as a gastrostomy tube in the abdominal wall will make it possible to introduce various forms of liquid feedings directly into the jejunum. Rectal feedings are possible in some patients, but in our experience many patients are unable to retain adequate quantities of protein hydrolysates by rectum to meet their requirements. Furthermore, the colon is a very poor avenue for the absorption of glucose or other carbohydrates.

The intravenous route is an excellent one provided that suitable preparations are available. Protein hydrolysates can now be given with a relatively low reaction rate and those reactions which do occur are seldom serious except, perhaps, in the very debilitated patient. The results obtained in various studies in the Harrison Department of Surgical Research, at the University of Pennsylvania by these various methods are shown in Table I. It will be seen that gram for gram, protein hydrolysates seem to be a little more effective when given enterally, even though this was into the jejunum, than when given intravenously.

Table I

AVERAGE N BALANCE WITH ENTERAL AND PARENTERAL FEEDINGS AFTER OPERATION

Enteral	8	296	32.8	+0.35
Parenteral				
Pts. receiving Hydrolyzed Protein	10	289	32.6	–2.85
Pts. receiving Hydrolyzed Protein and Gelatin	10	293	30.4	–0.02

Unfortunately, the nutrient materials which may be given parenterally are somewhat limited. Glucose remains the principal material for caloric intake and the casein hydrolysates are the standard materials for food nitrogen. Hydrolyzed fibrin has also been employed with excellent results. Whole blood and plasma are distinctly valuable and their more extensive use is prevented chiefly by their expense. Human serum albumin, available as a war surplus, was tried experimentally by Riegel and Gimbel.[16] These authors found that it was comparatively easy to establish positive nitrogen balance for five days by giving this material in moderate doses which could be easily tolerated by the circulation of the normal adult. Further investigation by them, however, showed that comparatively little of the serum albumin was actually metabolized and studies of lymph from human volunteers who have received albumin for considerable periods revealed a high albumin content. It was their belief that patients receiving albumin stored considerable quantities of the material in the body unchanged and that this accounted, in no small measure, for the positive nitrogen balance observed in experiments of short duration. It also accounted for the fact that albumin nitrogen was more effective in such experiments when given parenterally than when given orally. Their data do indicate, however, that albumin entered into general body metabolism to some extent.

During World War II, ossein gelatin was developed for shock therapy. Certain preparations of this material, produced under conditions especially designed to permit their use for intravenous therapy, were notably free of pyrogenicity.[17] After the war it was decided to investigate the nutritional properties of these materials. It is known, of course, that gelatin is an incomplete protein but it had been suggested by Brunschwig[18] that, when combined in the dietary with a complete protein, it might well be utilized. Table I shows the results of Riegel, Koop and their associates[19] obtained by substituting half of the nitrogen ration given control patients as protein hydrolysate, with gelatin. Additional experiments in the dog by Rhode, Parkins, and Vars[20] indicated that gelatin was not as completely utilized as the clinical studies might suggest, but there did appear to be thirty to thirty-five per cent utilization of the gelatin nitrogen as far as could be determined.

One final method of keeping up the protein nutrition of patients who have to undergo extensive surgical operations is worthy of mention. This applies only to those without gastro-intestinal handicaps and, in our experience, was particularly useful in neurosurgical patients. It consists of giving very large amounts of protein derivatives and other foods for a five day period before operation and it was determined by Koop and his associates,[21] using this method, that the positive nitrogen balance built up before operation usually exceeded the negative nitrogen balance occurring in the first five postoperative days. Ordinarily, beyond this time, it is possible to bring such patients into nitrogen balance by the normal route (Table II).

The value of whole blood in preparing patients for operation needs re-emphasis as blood volume is often reduced (Table III) and it is not always possible to restore it by less direct means.

SUMMARY AND CONCLUSIONS

In summarizing our working knowledge of the nutrition of surgical patients, I would like to repeat the following points:

If thiamine chloride, riboflavine, nicotinic acid, ascorbic acid, and vitamin K are provided in liberal amounts, recognized vitamin deficiency has been rare. A normal prothrombin concentration is not assured by the use of vitamin K and must be checked.

When vitamins, electrolytes, and water are provided for, the most critical need of surgical patients is usually protein. The need for this is substantially increased by operation and injury.

After procedures such as subtotal gastrectomy, a protein intake of 130 grams with a total caloric intake of 2100 calories seemed about the mean for nitrogen balance in the seventy kilogram adult. Larger amounts are probably desirable.

This dietary should be provided in the simplest manner suitable. Thus, those that can and will eat should be fed. Those that can eat but will not may at times be fed by tube. Certain patients who have had operations on the upper alimentary tract can be fed jejunally if a tube is placed appropriately. A few patients have been fed worthwhile supplements by rectum but, in general, when the upper intestinal tract cannot be used, intravenous alimentation is the best.

The intravenous route was a little less efficient than the enteral route in bringing the patient into nitrogen balance when protein hydrolysates were used. The efficiency of the intravenous ration was enhanced if one half of the protein hydrolysate nitrogen was replaced by gelatin nitrogen. In animal experiments about thirty to thirty-five per cent of infused gelatin appeared to be utilized.

Human serum albumin produced positive nitrogen balance in normal men when infused intravenously. Determination of the potassium and sulfur balances indicate that this was largely due to storage but that ultimately some of it was metabolized.

TABLE II
ELEVEN PATIENS WHO RECEIVED FORCED FEEDING FOR FIVE DAYS BEFORE OPERATION
(AFTER KOOP ET AL)

PATIENT	OPERATION	NITROGEN 10 DAYS GM.	NITROGEN BALANCE 5 DAYS GM.	NITROGEN BALANCE 5 DAYS GM.
Ri.	Craniotomy	+92.0	+148.0	–56.0
Fe.	Craniotomy	+65.4	+134.2	–68.8
Sm.	Gastric Resection	+81.1	+110.1	–29.0
Ho.	Craniectomy	+39.9	+68.1	–28.2
Wa.	Rankin Resection	–3.1	+57.6	–60.7
Do.	Rankin Resection	+19.9	+80.9	–61.0
Pa.	Gastric Resection	+68.6	+113.5	–44.9
Th.	Craniotomy	+46.0	+71.4	–25.4
Wi.	Craniotomy	+74.7	+86.9	–12.2
Bo.	Craniotomy	+113.3	+138.1	–24.8
Sc.	Craniotomy	+64.8	+98.5	–33.7

TABLE III
PREOPERATIVE PLASMA VOLUME DETERMINATIONS IN A GROUP OF PATIENTS WITH GASTRIC LESIONS
General Surgical Service
Hospital of the University of Pennsylvania

NAME (MI)	PREDICTED PLASMA VOLUME (MI)	MEASURED PLASMA VOLUME (MI)	PLASMA DEFICIT (% CELLS)	HEMATOCRIT (MI)	WHOLE BLOOD DEFICIT
M.L.	2,800	2,260	sio	46	980
M.R.	3,ooo	z,520	480	48	875
R.Z.	2,700	2,175	525	42	955
A.B.	3,500	2,665	835	4Z	1,680
J.S.	3,8So	2,265	1,585	44	2,870
A.P.	4,500	3,600	goo	45	I,S6n
F.L.	3,37°	z,800	570	39	93°
J.C.	3,290	2,840	450	38	730
S. diV.	3,530	3,170	360	44	630
N.H.	4,050	3.49°	560	36	1,890

In patients with chronic nutritional deficits with organic lesions that prevent them from eating, whole blood and plasma and early operation has been more satisfactory than prolonged programs of parenteral alimentation.

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The Robert U. Massey
History of Medicine Society

Upcoming Presentation

12 April 2000

Richard Melchreit, M.D.,
Medical Associate, Aids Prevention Section, Department of Public Health,
State of Connecticut

History of HIV Infection, 1980 to the Present

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50 Years Ago

From *The Connecticut State Medical Journal*

March 1950

Report on the Usefulness of an Antiseptic Detergent for Preoperative Scrubbing of the Skin

ROBERT W. PAINTER, M.D., *Hartford*

The Author. *Assistant Resident in Surgery, Hartford Hospital*

FOR the past several years, there have been an increasing number of reports concerning the use of various types of detergents and antiseptics for the preoperative preparation of the skin. Since the scrubbing routine generally used is time consuming, laborious, and often ineffectual in removing the bulk of the bacterial flora from the skin, it was felt that improvements in this technique would be most advantageous to both the surgeon and the patient. The most encouraging reports in the field have been with a new synthetic detergent called pHisoderm* combined with the antiseptic Hexachlorophene or G-11. If the mixture of these substances is as effective as proponents have maintained, it seems worthy of consideration by any surgical or hospital group interested in improving surgical asepsis.

The ritual of preoperative scrubbing of the hands and arms by the surgeon has been one of the time honored traditions in modern operating technique. Scrubbing has been done with some form of soap for many years because of the belief that mechanical cleansing is superior to any type of chemical rinsing of the skin.

For several years there have been attempts to add some substance to soap which would increase its efficiency and potency as a preoperative cleanser of the skin. As far back as 1944,[1] experiments were made with an agent called Hexachlorophene, or G-11, which was felt to be of value as an antiseptic. When tested it was found to have both bacteriostatic and bacteriocidal actions against Staph. Aureus, Strept. Veridans, and other gram positive cocci. When this substance was combined with soap[2,3] it was found that the resident bacterial flora of the skin was decidedly reduced so that the bacterial counts were considerably lower than with the use of soap alone. The residual bacterial count in an habitual user of soap containing G-11 was lower after 2 minutes than that of a control subject after a twenty minute scrub with ordinary soap. The substance was also taken up by the skin, retained for a considerable interval, and exerted a constant accumulative bacteriostatic effect on the resident flora for several days. When applied to the intact skin, it was found to be non irritating and non toxic. The number of reported cases of sensitivity has been quite small.

pHisoderm, the new synthetic detergent, has been proposed as a substitute for soap in the preoperative scrub.[4] This substance is a thick, white, creamy fluid containing an ether sulfonate, lanolin cholesterols, and petrolatum. It possesses active emulsifying, sudsing, and dispersing properties with a surface activity about forty per cent greater than soap; and is therefore felt to be more efficient and rapid in action than soap. It has a pH which approaches that of skin (pH 4-7) and thus, does not tend to cause the undesirable dryness and irritation of the skin produced by soap with its contained alkali (pH 9-11). pHisoderm has been found to be no more allergenic than petrolatum or lanolin, and has the important property of depositing on the skin an emollient film which resists rinsing.

The combination of pHisoderm and G-11 has been studied extensively by Walter[5] and others at the Peter Bent Brigham Hospital. They made many different tests on various detergents and germicides and arrived at the conclusion that pHisoderm, with G-11, appeared to be the most effective for the preoperative scrubbing of the skin as it had the most rapid disinfecting action of any of the substances used.

Reprinted from the *Connecticut State Medical Journal*, March 1950.

*Supplied by Winthrop-Stearns Company

Because of this and other reports[6,7] of the efficiency of this product, it was decided to attempt a clinical trial with pHisoderm containing G-11 (3 per cent), at the Hartford Hospital. Since the usual preoperative scrubbing technique now employed in this hospital consists of an 8-10 minute scrub with soap and water, this was compared with the pHisoderm method. We felt it desirable to evaluate, in our own practical experience, the promising reports of others with this substance.

It was decided to determine the efficiency of the scrub by taking cultures of the fingertips on blood agar plates and following this by rinsing the hands and arms in 500 cc. of sterile water for one minute. A sample of the rinse fluid was then taken for culture with serial dilutions for colony counts. It had been shown in previous investigations that by rinsing the hands in sterile water for a short period of time the number of bacteria present in the water and on the skin were roughly proportional. Thus, this latter method is obviously a more accurate way of determining the number of residual colonies present on the skin.

To begin the comparison, the skin of the hands and forearms was scrubbed diligently for ten minutes with soap and water. Subsequently, finger cultures were taken, and the hands were rinsed in sterile water for one minute. The cultures were incubated for 48 hours and the results tabulated. Examination of the blood agar plates revealed innumerable colonies of Staph. Aureus which had grown on the agar wherever the fingers had been in contact with it. The rinse water also contained innumerable colonies and only on dilution was it possible to get an accurate colony count. The same ten minute scrub with soap and water was done on several consecutive days and the results on each day were approximately the same. The colonies of Staph. Aureus were innumerable on both the blood agar plates and in the rinse water. No real decrease in the number of colonies present was noted in any of the cultures over the several day period.

The following week pHisoderm with G-11 (3 per cent) was used with cultures taken in the same manner. The technique used for scrubbing was as follows:[8] Two to four cc. of pHisoderm were applied for a quick preliminary washing. This was spread over the hands and forearms, and cleansing carried on for one to two minutes with water added. Such a preliminary washing removes most of the acquired soil and transient bacteria and makes possible a more intimate contact with the second application of fresh material. Then, two to four cc. of the detergent were again applied and the scrub continued until ten minutes had elapsed. The use of two applications is believed better because of the debris which becomes detached during scrubbing.

Examination of the cultures after the first pHisoderm (G-11) scrub revealed a large number of colonies on the blood agar plates comparable with that seen after the soap scrub. However, the rinse water showed no growth in either the undiluted or diluted plates. In the ensuing several days, cultures from the fingers on the blood agar plates showed a gradual decrease in the number of colonies present and in no instance was there any growth of colonies in cultures of the rinse water. Subsequent scrubs after the use of pHisoderm (G-11) for three or four days showed no growth or only a rare colony present in any of the cultures. Further tests were made cutting the scrub time down to five and even three minutes with still little or no growth noted in any of the cultures.

A study of cultures taken after the soap scrub revealed that the number of colonies present in the rinse water and from the finger cultures was roughly proportional. Yet it was of particular interest to us that following the first few scrubs with pHisoderm (G-11) the finger cultures would often show organisms and the rinse water would be sterile. Therefore, we feel that something must have been present in the rinse water which inhibited the growth of any organisms which may have been present. It seems logical to assume that the G-11 was acting as a bacteriostatic agent in the rinse water.

All tests done in this experiment were performed on the first scrub of the morning. When pHisoderm (G-11) was being tested, it was also used for other preoperative scrubs during this period; but, nevertheless, soap was used for washing hands outside the operating room.

After seeing the results of these cultures, all those connected with the experiments were impressed by the marked difference in the findings. It is obvious that the determination of the number of colonies is only approximate because it is impossible to keep all factors constant—such as area of skin that is actually tested for bacterial count, etc. Nevertheless, the difference was so marked that it could not be attributed to technical errors.

From what is known about this substance, it seems best to advocate that anyone who begins using pHisoderm (G-11) should scrub with it for 8 to 10 minutes during the first several days, gradually decreasing the scrubbing time if it is used daily in the operating room. It seems perfectly safe for the daily user to scrub only five minutes the first time in the morning, and three minutes for any subsequent scrubs—assuming that diligent scrubbing is done throughout the required period. If pHisoderm (G-11) is not used for several days, the individual should again scrub 8-10 minutes for the first several operations in order to get the resident bacterial flora down to a low level. Then the scrub time can be decreased as the material is used daily.

This may be a conservative regimen to follow, and perhaps will be changed in the light of subsequent research on this substance. However, it seems best to advocate such a method at the present time lest we become too careless with the preoperative scrubbing technique.

Some have complained of lack of suds when using this preparation. However, if it is used in the previously described manner with additions of small amounts of water to the lather, there will be adequate suds generated with the second application of the material.

It has been stressed[8] that more pHisoderm should not be added to suds already generated, for it produces a mixture which may cause the undesirable deposition of fats and oils on the skin.

There have been reports that cultures taken from the inside of gloves after several hours of operating, when soap was used for the preoperative scrub, showed a multitude of bacteria present; but that the colony count after a pHisoderm (G-11) scrub remained markedly reduced. This would seem probable since the G-11 continues to be present in the emollient film on the skin after scrubbing and also to act long after the scrubbing procedure has been terminated. Since Hexachlorophene (G-11) is soluble in alcohol, it is best not to rinse in the alcohol after scrubbing with pHisoderm (G-11) because it tends to break down this emollient film and extract the substance from the skin. Thus, the prolonged action on the resident flora of the skin would be lacking.

Because of the marked effect of G-11 on the skin, it has been suggested by Seastone[3] that the scrub brush be eliminated from this surgical wash. Certainly, it does not seem necessary to use a hard bristled brush which merely tends to break down the emollient film on the skin. Perhaps, after the use of a brush for the initial morning scrub to remove the bulk of debris, it could be eliminated in subsequent washings with pHisoderm. This will have to be properly evaluated by further clinical investigation.

From the information now at hand, it would seem that there are a multitude of possibilities for the use of this substance. There have been reports[9] of its use for the cleansing of the patient's skin preoperatively as a routine before the application of the usual antiseptics. From what has been previously stated about the prolonged action of this substance, it would seem to be of definite value for this purpose. When used as a preoperative skin disinfectant, it has been suggested that the cleansing be started 48 hours before the operation since the results will be more effective. If this is not possible, preparation 24 hours preoperatively or on the day of operation will still effect reduction of the skin flora, but to a progressively lesser degree.

Freeman and Young[10] have recently reported a preliminary study of postoperative infections in both clean and contaminated wounds. They compared skin cleansed with soap, alcohol, ether, and Zephiran with skin prepared with pHisoderm. Studies were carried out over comparable four month periods which revealed, roughly, a one-fourth decrease in the number of wound infections when pHisoderm (G-11) alone was used for prepping the patient's skin.

From the reports so far available, it would seem that there is a satisfactory new antiseptic detergent now available which is capable of replacing the usual soap and water scrubbing technique. This substance apparently has many advantages which makes its consideration worthwhile. It has been adequately demonstrated to our satisfaction that the material acts with marked rapidity in reducing the bacterial flora of the skin to a minimum, with the continued effect of keeping this flora at a low level for several days. Further practical studies could be made on this substance in any hospital with a competent bacteriology laboratory.

Further research should determine the extent of usefulness of this antiseptic detergent in a variety of fields. Its value in preoperative scrubbing for both the surgeon's and the patient's skin must await more thorough investigation for conclusive analysis. The use of this substance in cleansing of contaminated wounds before debridement must be studied. In obstetrics and gynecology good possibilities exist for its use and reports of its value in this field are expected to be published in the near future.

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My Doctor

Thankfully, the words, "my doctor," are still heard spoken with a certain reverence that bespeaks the personal admiration and sense of ownership that a patient feels towards his doctor. My doctor has been a friend and exemplar of the true physician since the day, nearly 40 years ago, when I began an internship under the tutelage of his chief residency in medicine. We all hold a special place in our professional pantheon of heroes for our "chiefs," whether medical or surgical, because they saw fit to invest time and effort by word, deed and example, in the unmolded clay that we were as neophyte doctors. Much was new; all personal roads of bedside behavior and the exercise of intellect and scientific knowledge were uncharted. Compliments were few, criticism frequent. A competent, compassionate, patient and nurturing chief was essential to setting the tone, the pace, the invitation to responsibility that the beginner must acquire at the start of a medical career.

Hippocrates wrote,

> The medical man sees terrible sights, touches unpleasant things, and the misfortunes of others bring a harvest of sorrows that are peculiarly his; but the sick by means of the art rid themselves of the worst of evils, disease, suffering and death.
>
> The dignity of a physician requires that he should look healthy, and as plump as nature intended him to be.... The prudent man must also be careful of certain moral considerations—not only to be silent, but also of a great regularity of life, since thereby his reputation will be greatly enhanced; he must be a gentleman in character, and being this he must be grave and kind to all.

I chose him as "my doctor," and encouraged my wife, who, as a nurse before I was a "real doctor" had observed his purity of purpose and could choose for herself, to do the same. We chose him because he fulfilled these Hippocratic and Oslerian ideals of a physician that we, in our separate health-serving professional apprenticeships, had been taught to admire. He sent surgical patients to me and I saw that he treated all patients just the same as he treated me, or us, his professional colleagues. The years passed; we raised our families, did our work, and invested our respective energies, each in our own way, in the affairs of our hospital and our medical community. We each had a taste of some that were rewarding and some that were thankless. In response to the latter, he showed no rancor. That's typical of him, my doctor.

Then, last Fall, we and all of his patients received a saddening and shockingly honest letter which began, "It is with greatest regret that I must announce my unexpected and sudden retirement. I developed some weakness and shaking in my right shoulder and arm. A CT scan showed a brain tumor.... I have had surgery and most of the brain tumor has been removed. I will be receiving radiation and possibly chemotherapy and hope for an overall good outlook."

The letter went on in his characteristic fashion to commend those physicians who had been his covering colleagues over the years, expressing gratitude for their acceptance of the added patients for whom they would be responsible in his absence. Accolades followed for the caring office staff who had made the practice of medicine so enjoyable for him.

I, we, and his many friends were touched by the poignancy of his message and by the absence of even a filament of bitterness. All about us the swirl of accusations and recriminations against the managed care organizations and how they are upsetting our patients and us doctors and making our lives so difficult, and here was a message of peace and love and resolve and gratitude from one among us who has been rendered hemiplegic by a brain tumor, without a sour word to be found. It gives pause for thought.

(continued on next page)

I went to visit him to see how he was doing, to show my concern, but mostly to say this: "I want you to know how much I have admired your integrity, your honesty, your unselfish commitment to your patients and to your colleagues over the 40 years I have known you. You are such a remarkable example of the best that a doctor can be, that when one of your ilk withdraws from the line, we in the world of medicine are reduced as a team and diminished in the eyes of those observing our profession."

Then I received an invitation to a retirement breakfast in his honor. All of his family was there, his wife, his brother, his children, and grandchildren. Remarks of praise and love were offered by colleagues senior and junior, and even by a medical student who had observed first hand my doctor's gifts in the office setting. But the prize for eloquence on that morning would surely go to the guest of honor, presiding from his wheelchair with a broad FDR-like grin, speaking words of gratitude, encouragement and hope to us healthy ones. When bad things happen to good people, would that the supreme elements of the human spirit, displayed by "my doctor" on that day, and in this his most trying time, could be dispersed and perpetuated.

H. David Crombie, M.D.
Editor

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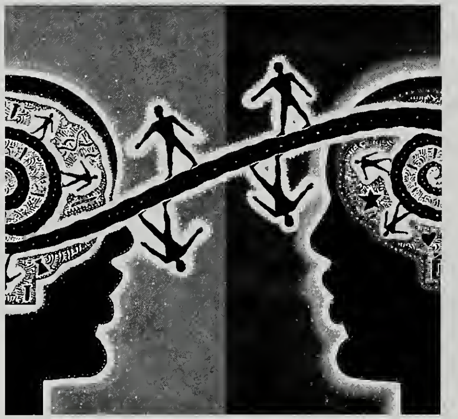

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Unnatural Selection

One of the more bizarre but interesting aspects of the United States' shift in medical care from what was derided as a "cottage industry" to its present hodgepodge of managed care systems and HMOs has been the concomitant growth of the very group that this new improved "system" was supposed to help, namely, the uninsured. This group has expanded in the past seven years from 28 million to over 44 million.

How has a major reorganization of medical care in the United States, supposedly designed to render our so-called health-care system more inclusive, resulted in such a paradox? Why is it that our new, "more efficient" health-care system annually produces more of what it was intended to eliminate?

I suggest to you that these results are not at all paradoxical. To the contrary, I say that they are precisely what the organizers of our new system intended. They have brought about something that I call the *survival of the richest*, and they have done it through a process of *unnatural selection*. By unnatural selection I mean, of course, that the new system *excludes* the very people for whom we supposedly created the system in the first place! And I strongly believe that this was the intended result all along. Because this is precisely the goal of a system known as Corporatism, or Corporate Socialism.

Briefly stated, in a corporatist system, government and corporations work together through what are generally termed "public/private partnerships." The government, of course, sets policy. Private corporations use their capital and other resources such as government loans and tax credits to implement the government-mandated policies. The corporations keep any profits as their reward. The size of those profits is of no concern to the government, as long as its policies are implemented and enforced upon the population. If there are losses, the government uses taxpayer money to make the corporations whole again. Lastly, but most important, if there is excessive risk inherent in certain aspects of policy implementation, the government acts as the corporation's guarantor or, in the case of medical care, the insurer of last resort.

Under a corporatist health-care system, employers are expected to pay the health-care premiums of their workers. This makes health-care payments a company-to-company endeavor, leaving both patients and physicians completely out of the loop. Workers are unaware of how much is actually being paid over by their employers to the insurers. Indeed, many workers don't even realize that it is their money that is being spent! And for the most part, what is being paid out far exceeds what they would spend if they were allowed to choose coverage for themselves in a free and robust market. Why is this?

Because the companies are paying for full, first-dollar health insurance coverage for young, healthy, middle-class, and above families. Yet these families use minimal health-care resources, and the premiums' prices are based on a global population, not just the young and healthy. And this is where the government does its part in the corporatist partnership. Government siphons off and assumes the risk of caring for the less healthy and more expensive people. How does this come about?

Well, Medicare of course, has long cared for those over 65, for people with kidney failure, and for some others. SSI has covered the disabled, along with Medicare and/or Medicaid. But now there are newer programs, whose advent coincides with the ascendancy of managed care. They are part and parcel of our new, corporatist health-care system, wherein managed care companies take the premium and the profit, but government takes the risk.

Lower paid workers and nonworkers have been traditionally covered by Medicaid or charitable endeavors. But now Medicaid has been expanded to cover the children of the uninsured through the CHIPS programs. Currently there are plans afoot to allow the parents of CHIPS children into this new government program as well, and to expand the income limits upward, so that the government can eventually accept responsibility for more and more lower income workers,

(continued on next page)

thus removing them from the corporate risk pool. Not uncommonly, these lower paid workers are more sickly, or live in areas where they are exposed to more life hazards that have medical consequences.

More recently, legislation was passed to allow people with disabilities who qualify for Medicaid to keep this benefit when they enter the workforce. It is not a stretch of the imagination to expect that this disability coverage will be expanded to cover previously insured workers who temporarily leave the workforce for treatment of a serious illness such as cancer, and then wish to return to work. By doing that, corporate insurance pools would be relieved of these risks in the future by expansion of this new legislation.

Most recently, it has been suggested that people aged 55 to 65 be allowed to "buy into" Medicare. This would relieve the health-care corporations of the burden of older workers as well.

Unfortunately, this is not a cheaper and more efficient system. In reality, the worker pays thrice for this coverage! They pay firstly with a portion of their compensation going directly to health-care corporations, often without full comprehension of the amounts that they actually are paying. Then they pay the Medicare tax, the only payment that is clearly marked, and the one that is, in fact, the most trivial of the three. Finally, they pay for all of the expanding federal and state medical programs through their income taxes. And then they are told that this communal coverage is "more cost efficient!"

Of course, while taxpayers are paying over and over, money can be seen pouring out of this system on the corporate side of the ledger and making some people wealthy. This is how corporatism has always worked. Do you remember Agnelli, Pirelli, Porsche, and I.G. Farbin? Some of our more recent, egregious examples follow. Let's "follow the money" for a moment.

Several years ago, while we were being told that medical care was costing the American people one trillion dollars per year and yet millions of people were receiving minimal care or no care at all, Aetna was paying one man, Leonard Abramson, one billion dollars—ie: one-tenth of one percent of the nation's total annual spending on health care—for U.S. Healthcare. But both the business world and government pronounced this deal to be an acceptable (and presumably efficient) financial arrangement!

The counsel who "did the deal" for Aetna with Mr. Abramson received a bonus payment of one million dollars for her efforts, in addition to her usual salary. It was not surprising to discover that this person was none other than President Clinton's original nominee for Attorney General of the United States .

When doctors complained about Aetna's "all product contracts," its CEO, Dick Huber, dismissed the complaints by declaring publicly that "doctors are greedy." Then in late 1999 Reuters News reported that Mr. Huber had suffered a financial loss because his $120 million share interest in Aetna at the beginning of 1999 had fallen in value to "only" $61 million by the end of the year!

And of course Steve Wiggins, founder of Oxford Health Plans, took $32 million to the bank by selling some of his Oxford stock at $80.00 per share just before the announcement of an unfavorable earnings report from which Oxford shares have never recovered.

And so we see, even from these few examples, the survival of the richest by the process of unnatural selection. In all of this, the government assumes the real risk. And the worker/taxpayer assumes the cost—over, and over, and over.

The line between entrepreneurial capitalism and corporatism can be a subtle and difficult one to define. But clearly, with regard to medical care in this country, that line was crossed a long time ago. And to my mind, a government/private partnership in health care is the worst and most pernicious of all possible solutions to our purported health-care crisis.

Personally, I liked the old cottage industry. And I think that most of our patients liked it better too. But perhaps I am out of step with modernity, as some have told me. Perhaps we do need a "health-care system."

Perhaps. But I do know that Corporate Socialism should not be the route to that system.

Stephen R. Katz, M.D.,
President

Bioethics by Poll?

ROBERT U. MASSEY, M.D.

DANIEL CALLAHAN, a distinguished member of the founding generation of the 30-year-old field of bioethics, recently wrote: "I take bioethics seriously, but it provokes, by turns, pleasure, amusement, dismay, and regret."[1]

I met a few weeks ago with a group of medical residents to discuss physician assisted suicide, and found that I, too, was provoked, "by turns," with the emotions of "pleasure, amusement, dismay, and regret." Although the number of young physicians was perhaps 30 or 40, the responses were few. That was certainly in part my fault; we were separated in age by half a century and spoke subtlely different languages. One insisted that the matter of assisted suicide called for a public debate; and Kevorkian should be lauded, he said, for provoking discussion by sacrificing himself to legal penalties. Ethics, merely matters of opinion, should be determined by a public poll. Someone else said that euthanasia is at root simply an economic issue. A third, realistically, complained that getting to know a patient's feeling about these matters took more time than doctors had; "It might have been possible in your day, not in ours." One young woman quietly commented that "killing was not a doctor's business."

We concluded this unsatisfactory Socratic dialogue by not agreeing to any position; someone called out, "So what's the answer?"

In his article, Callahan asked how in our society whose highest value is liberty do we use that liberty most responsibly and "rise above our own self-serving impulses?"

> It is, moreover, hazardous to do as our society likes to do, to make a sharp distinction between public and private morality, implying that the former can be firm and demanding ... while the latter is subjective, open to no binding moral judgment. But it has never been clear to me why the public and private sphere ought not to be equally subject to ethical inquiry, even though the norms might be different.[1]

Some years ago in a talk at an Osler Society meeting, Edmund Pellegrino, another of that early generation of bioethicists, asked the troublesome question: where indeed do our ethical convictions come from? Where do they find their moral force? Only in the words autonomy, beneficence, nonmaleficence, and justice? Is there anything in these words that condemns a physician for failing to be entirely competent in his or her specialty? Lawrence Weed, the originator of the problem- oriented record, once declared: "A physician who is 99% reliable is totally unreliable." Where do we hear about close and careful listening to the patient, taking time, allaying fears, feeling empathy, being painstakingly thorough in our examination, being compassionately honest, exercising *prudentia* in diagnosis, prognosis, and treatment? Is all that comprised in the four-word mantra above? Pellegrino did not answer that question, but from his background we knew what his response would be. He was even then undoubtedly writing his book with David Thomasma, *The Virtues in Medical Practice*, which would be published in 1993.

Callahan was making the same point, a notion increasingly rejected by many of our philosopher colleagues and ethicists since Nietzsche: "None of these aims make much sense," he wrote, "if one is not willing to entertain the notion that there are some universal human goods and truths that can and must be called upon to rise above the particularities of culture."[1]

Hermann Nothnagel (1841–1905), a professor of medicine at the University of Vienna, in his inaugural address in 1882, offered this maxim to his students: "Only a good man can be a great physician."[2] That remark, often quoted, had been preceded by words of deep significance, especially now in our brave new world increasingly defined by technology: "All knowledge attains its ethical value and its human significance only by the humane sense in which it is employed."[3] Nothnagel, during his *Wanderjahre*, spent three years in Königsberg; could it be that in that place he sensed the spirit of Emmanuel Kant, who had written so many years before: "purity of heart is to will one thing"? Pellegrino, critizing legalistics, rule-based ethics, declared "Without principles the moral life would rest on sand."[4]

ROBERT U. MASSEY, M.D., Professor Emeritus, Division of Humanistic Studies, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington.

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This Month's Reading in Review

TIMOTHY B. NORBECK

According to a February KPMG survey, most employees at Fortune 1000 companies appear to be willing and ready to take full responsibility for choosing their health plans.... Given the opportunity, 73% would prefer to shop for their own health insurance, and 46% of employers think they should.... Among those employers who were receptive to the new plan, 80% said that they would be likely to change their company's plan to the defined contribution concept if there were no tax impact on the company's tax situation or their employees.... Almost 60% would implement the new plan within one year.

KPMG Release (9 February 2000)

According to Hewitt Associates pollsters, managed care has helped control health-care costs, but almost two out of three companies said it has done so at the expense of worker satisfaction.

Wall Street Journal (1 February 2000)

Relative to the Harvard Pilgrim Health Plan, which went into receivership last month and has a number of for-profit suitors lining up to purchase it, Senator Mark Montigny, a New Bedford (MA) Democrat and chair of the Senate Ways and Means Committee, said for-profit companies should be disqualified.... "The for-profit industry is floating around like vultures," he said; "They've never had access to a market on this level. The worst we can do is to let them use this crisis to come in the door and skim more profits out of health care."

Boston Globe (27 January 2000)

"Listening to much of the discussion, you get the impression we live in a Third World country that can't possibly afford to spend another dime on medical costs. In fact, as President Clinton said recently, 'The State of the Union has never been better.' Household incomes are climbing, corporate earnings are up, and both the state and federal government are sitting on large surpluses. What is to prevent us—as employers, employees, and taxpayers—from digging deeper into our pockets and spending more for medical care? Just as there is no free lunch, there are no free heart transplants. If we want quality health care, we are going to have to pay for it."

Columnists Steven Syre and Charles Stein in the
Boston Globe (10 February 2000)

Can't Possibly Be True

"The Nebraska Bar Association rejected Paul Converse's application, concluding, based on his law school record, that he is too obnoxious (disruptive, abusive, intemperate, irresponsible) even to be a lawyer."

Chuck Shepherd (8 February 2000)

"Synergy! In October, the pharmaceutical division of Japan Tobacco, the world's third-largest cigarette company, bought the rights to lung-cancer vaccines now under development by the U.S. firms Cell Genesys and Corixa. Now under one roof are the cause, treatment and potential prevention of lung cancer."

News of the Weird (8 February 2000)

People who come from large families seem to have a higher risk of developing Alzheimer's disease.... So says a study by a University of Washington team which found that people with five or more siblings have a 39% greater risk of developing Alzheimer's than those with fewer siblings.... "A poor-quality childhood environment could prevent the brain from reaching a complete level of maturation," the researchers said.

New York Daily News (5 February 2000)

On the March 7th ballot, California voters will be asked to repeal Proposition 10, a groundbreaking anti-tobacco initiative that raised the state cigarette tax by 50 cents per pack.... Proposition 10 squeaked through with a one-point margin in 1998, even though the tobacco industry spent $30 million in a media blitz to attack the measure.... California officials report that the Proposition 10 tax increase and higher prices charged by tobacco manufacturers have caused cigarette sales to fall by 30%.

New York Times (4 February 2000)

Two federal reports, issued February 3, accused some Medicare HMOs (which recently cut benefits and raised premiums) of spending "exorbitant" amounts on administrative costs, including parties, gifts, and tickets to sporting events.... Four HMOs spent $106,490 for sporting events and theater tickets, while another leased a luxury box at a sports arena for $25,057.... Still another spent $249,283 on food, gifts, and alcoholic beverages.

USA Today (4 February 2000)

Only in America

A tavern owner sued the State of Arkansas because its highway sobriety checks cause people to drink less.

Forbes (10 January 2000)

TIMOTHY B. NORBECK, Executive Director, Connecticut State Medical Society, New Haven.

Qualidigm Launches New HCFA Contract

Qualidigm has begun implementing its new Medicare Peer Review Organization contract for Connecticut, which began on November 1, 1999. Qualidigm has held this contract with the Health Care Financing Administration (HCFA) for the past 15 years. This new contract period, called the "Sixth Scope of Work," represents the sixth time that HCFA has awarded this contract to Qualidigm. This speaks very highly of the work Qualidigm, its collaborators, and the health care community have completed toward insuring appropriate high quality care for the Medicare population in Connecticut.

What distinguishes HCFA's Sixth Scope of Work from previous contracts is the focus on improving the quality of care across the nation in six specific clinical areas, the new Payment Error Prevention Program (PEPP), and the measurement of the impact of the quality improvement program on health care in the state. The PROs in all 50 states will be conducting quality improvement projects in six areas identified as having national importance. Connecticut providers have successfully addressed some of the identified areas in the past, but will now need to maintain and improve upon this success. The improvement efforts will be evaluated by statewide impact, rather than the improvement achieved by only the collaborating organizations which represent a percentage of the population.

National Health Care Quality Improvement Program Topics

HCFA is launching comprehensive national projects which will call upon the PROs and their collaborators to improve the care of Medicare beneficiaries across the United States. These national projects focus on six key clinical conditions encompassing both the inpatient and out-patient settings.

Acute Myocardial Infarction, Heart Failure, Stroke/Transient Ischemic Accident/Atrial Fibrillation, Pneumonia/Adult Immunizations, Diabetes Mellitus, and Breast Cancer

These topics were selected because they are clinically important conditions with high prevalence, significant morbidity and mortality, notable disparities between scientific recommendations and actual performance, and

Table 1

Clinical Area	Project Setting	Quality Indicators
Acute Myocardial Infarction	Inpatient	• Early administration of aspirin • Aspirin at discharge • Early administration of beta blockers • Beta blockers at discharge • ACE inhibitor for low LVEF • Timely reperfusion • Documentation of smoking cessation counseling during hospitalization
Heart Failure	Inpatient	• Angiotension-related drugs for low LVEF
Pneumonia	Inpatient and Outpatient	• Blood culture before administration of antibiotic • Appropriateinitial empiric antibiotic selection • Initial antibiotic within eight hours of hospital arrival • Influenza immunization • Pneumococcal immunization
Stroke/TIA/Atrial Fibrillation	Inpatient	• Aspirin/antiplatelets (for stroke and TIA only) • Discharged on warfarin (for chronic atrial fibrillation) • Avoiding inappropriate use of sublingual nifedipine (stroke or TIA only)
Diabetes	Outpatient	• Biennial retinal exam by an eye professional • Annual HbA1c testing • Biennial lipid profile
Breast Cancer	Outpatient	• Biennial screening mammogram

measurability. Additional criteria included feasibility of achieving improvement in the three-year time frame of the contract, readiness for change in the health care community, and previous experience of the PROs in working on these conditions. Twenty quality indicators (process measures) have been developed, tested, and linked to improved health outcomes by clinical research (refer to Table 1). These topics and indicators have been selected to maximize improvement impact on a national scale for the Medicare program.

In addition to projects in these six clinical areas, each Quality Improvement Organization (QIO or PRO) must conduct at least two locally defined quality improvement projects. One of these "local projects" must take place in one of the following settings: skilled nursing facility, nursing home, end stage renal disease facility, home health agency, hospice, rehabilitation hospital, physician's office, or other outpatient facility.

The second of these projects must use the process measures for one of the six national projects and must reduce the disparity between care received by beneficiaries who are members of a disadvantaged group and all other beneficiaries in the state. HCFA defines disadvantaged groups as African-Americans, Hispanics, Native Americans, Asian and Pacific Islanders, and Medicare beneficiaries who are dually eligible for Medicare and Medicaid benefits.

"Hospitals and physicians across Connecticut have collaborated with Qualidigm on successful quality improvement projects in many of these clinical areas in the past," stated Tom Meehan, MD,MPH, Chief Medical Officer. "The real challenge will be for Connecticut providers to build on the current levels of high quality care and to continue improving the health of Medicare beneficiaries."

"Qualidigm is looking to build upon our existing relationships with providers in Connecticut," stated Marcia Petrillo, Qualidigm's CEO,"as well as developing new collaborations to insure the success of the Medicare quality improvement program in the key clinical areas. The next Scope of Work gives us the opportunity to improve the continuity of care by expanding our efforts into home care, physicians' offices and community settings."

Payment Error Prevention Program (PEPP)

While the national emphasis on six pre-defined clinical areas represents a redirection of current quality improvement initiatives, the Payment Error Prevention Program (PEPP) is brand new and focuses on hospital billing performance. The purpose of PEPP is to identify the nature and extent of in-hospital Medicare payment errors and to work with hospitals to reduce or minimize their occurrence, using a quality improvement approach. According to HCFA, more than $20 billion in incorrect payments were made in 1996 and 1997; of these, 20% occurred in inpatient service. While some of these were the result of fraud and abuse, most were simply unintentional errors.

The role of Qualidigm and the other PROs will be to analyze types of errors, identify trends and patterns of incorrect payments, and design appropriate educational programs and other procedures with hospitals to prevent future errors. The skills that the PROs have developed in epidemiology, measurement, and performance improvement also will be applied in this new program.

Two specific areas for payment error reduction have been selected by HCFA as the initial focus: unnecessary admissions and miscoded DRG assignments. As with our other quality improvement efforts, Qualidigm will work collaboratively with hospitals, medical staff, and state associations in developing these projects.

This new HCFA contract represents an expansion of PRO activity. Our clinical quality improvement projects will continue, but the addition of PEPP, as well as an increase in Medicare beneficiary outreach activities, means that Qualidigm will be broadening its reach to other health service organizations to promote quality improvement.

PRO Program Evaluation

Another distinction between this HCFA contract and previous Scopes of Work is the evaluation of PRO performance. Qualidigm's performance will be based on the level of improvement of all Connecticut providers statewide in both quality improvement projects and PEPP and will be compared with improvement rates in other states. We believe that Connecticut is ready for this challenge and, will set an example for the nation.

Qualidigm began its work on the Sixth Scope of Work on November 1, 1999. If you have any comments or questions on these improvement initiatives, please contact Barry Waite at Qualidigm at 860-632-6347.

Letters to the Editor

Letters to the Editor are considered for publication (subject to editing and abridgement), provided that they are submitted in duplicate, signed by all authors, typewritten in double spacing, and do not exceed 1-1/2 pages of text (excluding references). They should not duplicate similar material being submitted or published elsewhere. Letters referring to a recent Journal article should be received within six weeks of the article's publication.

A Patient's Good Humored Views

Letter to the Editor: I was asked by a good friend who happens to be a thoracic surgeon, to try and describe my recent experience of heart by-pass surgery in "simple" terms. Of course my first reaction is that there is no "simple" description of going through heart by-pass surgery, but considering that an awful lot of people survive it annually, maybe some words ought to be said.

Mine started with what I considered "gas" pains. When the doctor offered me a nitro pill "to relieve the 'gas'"—and it worked—he then declared I had likely experienced a heart attack. Later blood work confirmed it and its treatment would bring me great trauma over the next few weeks.

Once ensconced in a hospital I learned the real meaning of the term "intensive care." If the heart attack was caused by stress, the hospital experience was surely intended to recreate the event. Deprived of the use of a phone, I couldn't notify my employer or family that I nearly died, and had been spirited off to an unknown location for "further treatment" of an undetermined nature. Clearly if there was a need to call in sick, this qualified. The *lack* of communication caused more stress than their stated purpose of not allowing phone conversations to lead to stressful situations.

The plot thickened when, during any attempt to get actual rest, a different person would come to my bedside approximately every one to two hours. One had to take blood, one had to take my pulse and temperature, another checked my blood pressure, one had to do an electrocardiogram even though I had a portable version slung around my neck at all times. ... *and all left the lights on over my bed and the door open when they left.* I'm convinced it was a conspiracy to prevent any rest, whatsoever. One could suggest that these people needed more basic training so that one person might be able to do it all in one visit? I know that would seem silly to the "nurses-in-the-night" union (I'm convinced there is one). Being timid to suggest such efficiency while under their direct physical control, I kept quiet and wide awake, for the next intrusion.

When the big day actually came there was another insult. The made me shower with a special soap to clean myself for the cutting.

It was like asking a fish to scale itself for the pan.... But it was *after* the surgery when the real adventure began. I missed the actual surgery 'cause mercifully I was finally asleep.

I was awakened by a voice insisting on explaining all the attachments I had acquired during the surgery.

I was told, ... "Starting at the top, you have an insertion in a vein in your neck—don't move your neck ... you have two tubes way down your nostrils—don't worry about those ... you have a tube the size of a coke bottle down your throat—pay no attention to that ... there are two tubes in your chest to suck out leftover blood and stuff"—(leftover stuff—excuse me?)

Now I quickly remembered that I had not previously *had* any holes in my chest to stick any tubes in ... they had made *new holes* [more about these tubes later] ... "You have a tube between your legs where you've spent your entire life avoiding sticking something into ... (they're damn lucky I *had been* asleep for that), and finally you have three tubes in just two wrists. Now you can't move around and risk loosening any of these tubes or you'll die!" Now this is all happy news to wake up to ... This person went on to highlight that since all these tubes were essential to my continuing life here on earth, they had strapped my arms to the bed so that I couldn't hurt myself by pulling any tubes loose.

Given this cheery scenario, I promptly threw up. A nurse came in with a very large turkey baster, inserted it into a tube and cleaned out the lines. At least I could breathe again. Thank God (and the hospital) for that angel of mercy—'cause I knew I was a goner even after the surgery.

Back to the tubes in those *new holes.* When it became time to *remove* the tubes, my surgeon that did all this to me did not return to the scene of the crime. A patsy was sent. This person announced that it was time to take the tubes out. Now I was apprehensive already 'cause I knew that the size of those tubes meant holes you could drop fish lures in, that opened straight into my heart area.... He told me to take a deep breath and he mightily dragged the first tube out.

Before my eyes uncrossed and I could get a firm grip on his throat, he had dragged the other one out and fled into the hallway.

If any of you people have never had heart surgery, let me assure you that the surgery ain't nothing—you're asleep. It's what comes after the surgery when you are awake that's the problem. They don't knock you out again to disconnect any of those appendages, even that special one ... down there.

Some time after the surgery and I'd recovered to the condition I was in before the event, another doctor dropped the "other bomb" that my cardiologist, surgeon, nurses, physician's assistants ... no one had bothered to mention to date.... *"Unfortunately by-pass surgery doesn't last very long."* ... Say what? Doesn't last? What does that mean ... your heart pops open like an old inner tube? Doesn't last?

I got a warranty with my crock pot ... and nothing with my heart surgery? What gives?

Just remember—when that person announces that it's time to take the tubes out, and they will, you pull out that flask that you've hidden away for a "rainy day" and pretend to be back at the fraternity.

Good scouts are always prepared.

Don Hannon
"Patsy of the Year"
Rock Hill, New York

RE: Book Review of *Chiropractic the Greatest Hoax of the Century*

Letter to the Editor: I greatly appreciate the review in the November issue of *Connecticut Medicine* by Dr. Robert Biondino of my new book *Chiropractic the Greatest Hoax of the Century?* Since chiropractic has been expanding most vigorously, largely without the opposition of organized medicine, I have felt the moral obligation, as a medical doctor, to speak out for the truth about this practice.

There are some 70,000 chiropractors and 4,000 new graduates every year practicing a theory for which there is no scientific evidence. This compares to 15,000 medical doctor graduates. These chiropractors are striving for hospital staff membership, both private and VA; status as school physicians, sports doctors, family health care doctors, primary care physician gatekeepers, and permanent doctors in the military. Their practice of spinal manipulation of the necks of newborn babies is especially alarming. The book finds no evidence for the chiropractic treatment of asthma, ear infections, or any childhood disease. Yet chiropractic has lobbied the legislature to require chiropractic coverage for any health care insurance sold in the state.

The book would warn Connecticut doctors of the case of the quadriplegic woman who suffered a stroke under the care of a chiropractor, lying in the Hospital for Special Care, who was awarded 10 million dollars by a jury, but did not receive anything from the bankrupt chiropractor. Referring patients to chiropractors exposes medical doctors to such liability.

I would welcome the interest of Connecticut doctors who share these concerns by displaying the book in their waiting rooms or sending copies to their representatives.

The book is available directly from New England Novelty Books, 1143 Chamberlain Hwy., Kensington, CT 06037 for $14.95 plus 90 cents tax, or from Amazon and Barnes and Noble websites, or book stores. Any profits are being donated to the National Council Against Health Care Fraud.

L.A. Chotkowski, M.D.
Kensington

RE: "The Relationship of the General Practitioner to the Hospital Staff"

Letter to the Editor: Dr. Paul A. Davis's article "The Relationship of the General Practitioner to the Hospital Staff" which was reprinted in the December issue of *Connecticut Medicine* is just as relevant today as it was when it originally appeared in 1949.

Perhaps its importance is even greater today because the place of the modern general practitioner on the hospital medical staff is more uncertain now than ever before. There are several reasons for this. The concept of "general practitioner" encompasses a much broader range of physicians than it did when Dr. Davis wrote his article. Fifty years ago the general internist was still considered the quintessential hospital consultant. Then, general practitioners often consulted internists when they had problem cases and the diagnosis or treatment was beyond their scope. Today, general internists are lumped into the same "primary care provider" category as family physicians because the differences between the two are rapidly diminishing.

Though purists and medical educators from both sides would disagree, it has become a generally accepted fact that general internists and family physicians are evolving into the modern counterparts of the "general practitioner" whom Dr. Davis described in his original article.

There are some differences between the two specialties. For the most part, general internists limit their practices to adult patients, whereas family physicians often see younger patients and perform more office procedures in such areas as nonoperative orthopedics and minor surgery. It is unusual nowadays for family physicians to use general internists as consultants in the hospital. As far as hospital consultations go, both specialties probably refer directly to specialists to the same degree.

So what's the point? Fifty years after Dr. Davis's article, hospital staffs still don't know where the general practitioner fits into the medical staff! Even though the proportion of general practitioners has increased in comparison to other specialties (when one considers the merging of general internists and family physicians), many hospitals still do not have active sections of general medicine. In fact, most primary care doctors themselves wonder what their roles are. Many are now using hospitalists to take care of their inpatients and it is easy to infer that in the near future the modern general practitioner will be completely disconnected from the hospital environment. This may happen voluntarily or by edict from managed care organizations.

As a physician who does use hospitalists and who holds that they are a necessary and welcome addition to answer the demands and complexity of taking care of hospital patients, I believe that rather than accept what appears to be a growing irrelevancy in the hospital environment, general practitioners need to maintain an effective hospital presence. Having strong sections of general medicine is one of the best ways to achieve this as Dr. Davis pointed out 50 years ago.

Only by maintaining an ongoing relationship with the hospital staff can the general practitioner stay connected with the developments that are occurring in all fields of medicine. The hospital remains the proving ground for much of the rationale and skills that eventually work their way into office practice. Even if general practitioners do not directly make the diagnostic and therapeutic decisions on their patients in the hospital, it is vital that they at least make courtesy visits to their patients even though they are being competently cared for by hospitalists. Making courtesy visits is a function for which remuneration is not available. Most patients do appreciate the effort and it makes the transition of their care back to the general practitioner run more smoothly.

Another reason for a section of general medicine is that as general practitioners are immersed in the care of patients in the community, they are well-positioned to bring to the hospital administration's attention any special areas or services that need improvement. At Danbury Hospital we have such a section of general medicine which meets quarterly. Some of the initiatives that have come out of the meetings are improved anticoagulation guidelines and preoperative testing.

Primary care physicians are undergoing a tremendous transition as are physicians in all specialties. The possibility of becoming completely disconnected from the hospital staff is closer a reality today than ever before. I suspect that the unintended consequences over time of such separation would not be good for either patients or physicians.

Dr. Davis said that medicine was experiencing changes "never before known in its long and glorious existence"; those words, so true 50 years ago, have just as much meaning for the general practitioners of today. The leadership of general internal medicine and family practice should look for common ground as they enter the new millennium. Modern general practice is undergoing an uncertain metamorphosis. One way to assist its transition into a healthy and strong specialty is to include strong sections of general practice on the medical staff.

Edward J. Volpintesta, M.D.
Bethel

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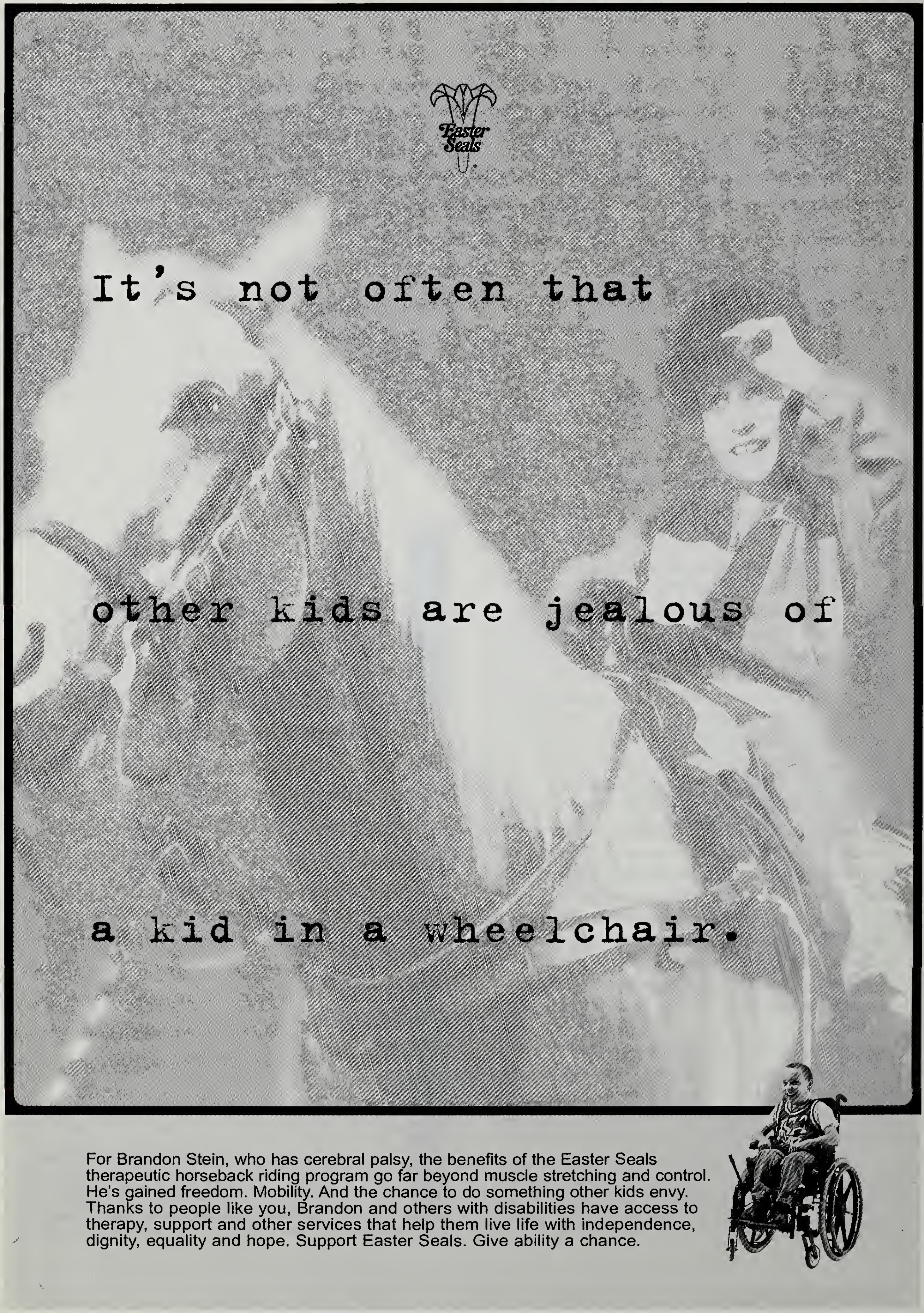
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From the Executive Director's Office

CALL

ANNUAL MEETING OF THE HOUSE OF DELEGATES

10 MAY 2000

The Annual Meeting of the House of Delegates will be held at the Ramada Inn, 275 Research Parkway, Meriden. The meeting will commence at 12:30 P.M. on Wednesday, 10 May 2000 and will continue until all business has been concluded.

Stephen R. Katz, M.D., President
Howard J. Wetstone, M.D., Speaker of the House
Brian Van Linda, M.D., Secretary

11:30	Registration of Delegates
	Luncheon
12:30	Call to Order
	Adjournment at Conclusion of Business
	Reception for the Incoming President

* *

INTRODUCTION OF RESOLUTIONS

Article V, Section 12, Par. 3 of the Bylaws of the Society provides that:

Resolutions may be introduced by any Active, Life Member, Student Member or Postgraduate Physician Member of The Society, in compliance with the following provisions.

a. *All resolutions, reports and similar items of business submitted in writing and received at the office of the Executive Director not later than thirty days before the date scheduled for that meeting shall be considered as regular business of the House of Delegates.*

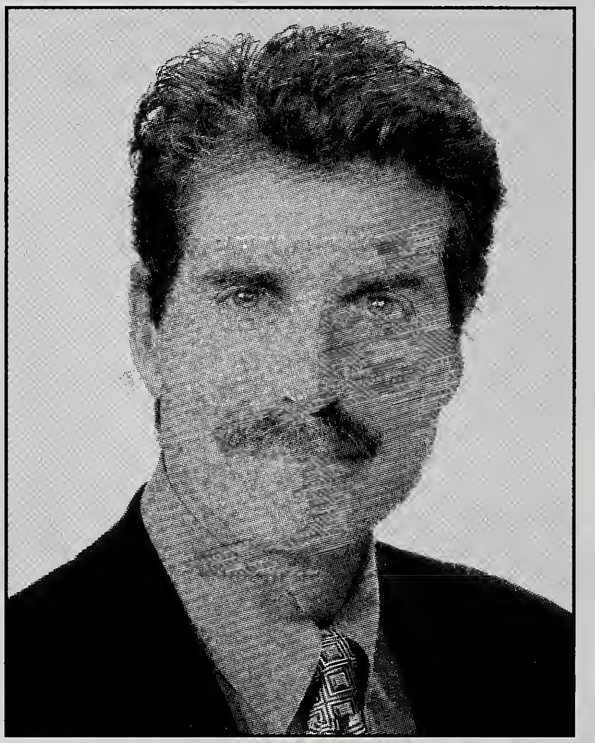
b. *Component county associations or the Student Member or Postgraduate Physician Member Associations whose meetings are held later than thirty-five days prior to the date of the House of Delegates shall be allowed five days after the close of such meeting in which to submit resolutions, reports and similar items of business to the Executive Director's office and still have such material considered as regular business. In no event, however, may such resolutions, etc., be considered regular business if they are received later than fifteen days prior to the date of the meeting.*

c. *Reports, recommendations, resolutions or other new business may be presented to the House of Delegates by the Council of the Society at any time and shall be considered as regular business.*

d. *Any business which does not qualify as regular business in accordance with the foregoing provisions may be accepted for consideration by a majority vote of the delegates present and shall be referred at once by the Speaker to a reference committee. When business is introduced under the provisions of this paragraph the vote shall be taken without debate, except that the introducer shall be allowed not more than two minutes to explain why it should be considered as regular business.*

* *

Stuttering Didn't Silence His Story.



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BOOK REVIEWS

Doctors Afield
Edited by Mary G. McCrea Curnen, Howard Spiro and Deborah St. James. Yale University Press, New Haven and London, 1999. 229 pp. ISBN 0-300-08020-4

Doctors Afield is a compendium of 27 autobiographical sketches purported to connect the vocation of medicine with assorted avocations, to the enhancement of both. Occasionally the connection is clear, often it is tenuous. For example, several stories, although of general interest, don't even pretend to relate to the synergy between vocation and avocation. A.C. Gilbert of Erector Set and American Flyer fame was a physician. He never practiced. Gertrude Stein didn't finish medical school.

Yet the success or failure of this book need not rest on making this connection. Rather, the book succeeds on a different level. It shows, not unexpectedly, that physicians may actually be inquisitive, fascinating people with a wide spectrum of "outside interests." Most of us in medicine know many colleagues like this so these stories are fun to read. These are stories of piano players, cabaret singers, sculptors, painters, authors, collectors, photographers, a priest, and a minister; 27 in all.

It is interesting to speculate why each became so involved in a second life. It is too easy to say they were moved by intellectual curiosity even though they surely were. At least some, if asked, might have wondered about the powerless feelings many physicians have. They feel powerless to control much in a profession which is still as much art as science. Perhaps collecting coins, or maps, or growing grapes, or painting, or writing poetry can establish some sense of personal control in at least one area of one's life, helping to avoid yet another area of conflict and stress.

Eli Newberger, M.D. for example, found that music brought "clarity to the professional ambiguities of the medical world." He describes his Thursday child-abuse clinics—places of pain and misery for both patients and staff. When clinic hours are over he often drives to his rendezvous with his jazz group at a local pub. He muses, "here injustice does not prevail; there is sadness but not misery, and every moment of improvisation carries with it the prospect of redemption. Indeed, mistakes in jazz improvisation become platforms of new ideas, not catastrophes that destroy lives."

Nearly all of the vignettes relate to another theme in the life of most physicians: education, a never-ending journey. In various ways the authors learned that education is not just about the pursuit of knowledge. Rather, it is about learning how to make a difference in your life—adding value to your life, to the lives of your patients, and if you're lucky, to society. Finnish virologist, Nils Oker-Blom, of Yale and the Rockefeller Institute, found out that fulfillment in his profession was complemented by what he learned from writing, poetry, painting, and sculpting. He states that education should produce citizens with an informed and critical view of their nation and the world.

For some, the doctor-patient relationship was the catalyst for education. Michael LaCombe M.D., writes in his chapter, "Doctors need to give patients stories as well as take them," and later, "patients want emotion from their doctor and empathy—and do not want providers, do not want to be simply clients. The art of medicine is to connect with patients ... writing has helped me get there." Michael Campo, M.D., writes that "poetry is the ideal medicine for exploring empathy." He makes a plea for poetry to be read before grand rounds!

Such is the stuff of Robert Coles and William Carlos Williams. We all learn from our patients and from our avocations as well. Doctors can know lots of special moments, poignant life-moments, if they'll just let them happen. That requires a certain mind set. Most of the authors of this book have that, and some have learned it through education in a venue other than medicine.

Richard F. Jones, III, M.D.
Plantsville

William Osler:
A Life in Medicine
by Michael Bliss
Oxford University Press. 581 pp., $35
"The Saint"—A book review by Sherwin B.Nuland, M.D.
Reprinted with permission from *The New Republic, Inc.* 13 December 1999:27–33.

On a brilliantly clear day in early May 1889, six young physicians and scientists looked on in eager but apprehensive anticipation as the opening ceremonies were held in Baltimore for a new kind of hospital, on which they had staked their careers. Ranging in age from 31 to 39, each of the men was riding the upward arc of a brilliant academic trajectory; each of them had been recruited away from a university position that would have assured him the facilities and the support for a productive career. But each of them wanted more than mere professional success. These rising medical stars were risking a great deal in order to take part in an incompletely formed project that would succeed or fail on the basis of their individual and collective abilities to create a novel and quite independent atmosphere of research, teaching, and patient care. On that spring day, however, the entire enterprise was still only a dream in the minds of its planners.

The Johns Hopkins Hospital and the associated medical school that was to be founded four years later held the promise of launching American medicine on excitingly novel adventures, in which each of the new professors would essentially create from scratch the conditions that he considered ideal for his work and for the development of his specialty. But it also held the threat of failing in a welter of poor planning, pedagogical squabbles, and inadequate financing. Franklin P. Mall in anatomy, John Jacob Abel in pharmacology, Ira Remsen in chemistry, William Welch in pathology, Howard Kelly in gynecology, and William Osler in medicine formed the vanguard of a potential revolution in medical science and education, and they knew it.

They also knew that the entire bubble of fantasy might explode in their faces. Even four years later, when the 33-year old William Howell joined them to be professor of physiology at the opening of the medical school, a great deal was still uncertain. The only sure thing was the conviction of those who observed them that they were all caught up in what one commentator called "the contagion of excellence."

In spite of a bundle of obstacles—not excluding their own philosophical differences and the inevitable personality clashes that might have undone lesser men—the seven thirty-somethings did succeed. With the judicious assistance of the university president, Daniel Coit Gilman, and the hospital's medical advisor, John Shaw Billings, they created an institution by whose example not only education was radically altered, but also an entire philosophy of patient care and research. Within 25 years of that auspicious day, American medicine was undergoing such widespread changes that it would soon become virtually unrecognizable from its backward past. It was not long before the initiatives radiating from the Johns Hopkins Medical School and its hospital were being emulated by every program for the training of young physicians and medical scientists in the country. Soon they would be the envy of the world.

One of the seven would become, as Michael Bliss calls him in his eminently readable new biography, "the high priest of his emerging profession." William Osler is remembered as the greatest clinical teacher of his day, a judgment so universal that it needs no modifying by such trendy adverbs as "arguably." In fact, he may have been the greatest clinical teacher of any day, and any country too.

Gifted with a charismatic personality and an infectious cheerfulness, Osler was possessed of the most important attribute of the mentor of the young: an inherent sense of just what is needed to make each acolyte comprehend how much he is appreciated and how well he is understood by his teacher. On Osler was bestowed also a corollary gift that so many thousands of students and patients long remembered, which is the ability to transmit his sense of the singular significance to him of each individual. As Bliss writes, he had the knack for "giving you all his attention and interest, perhaps taking you by the arm, listening intently, remarking on an encounter years earlier or on some other bond you had in common, convincing you that for William Osler at this moment you are the most important person in the world."

Primarily by means of Osler's great textbook, *The Principles and Practice of Medicine* (which went through sixteen editions, the last being published in 1947, 26 years after his death), but also by means of Osler's widely circulated lectures and many published articles, English displaced German as the language of medical discourse, the language that one had to know in order to comprehend the new advances beginning to appear so rapidly near the end of the nineteenth century. An immensely well-liked man and a catalyst to the accomplishments of others, he became the most sought-after medical speaker in America. He served as president, and often founder, of so many cultural and scientific organizations that even an Osler addict like myself is constantly surprised to come across yet another one not previously known to him.

In a widely acclaimed biography of the Canadian surgeon Frederick Banting, one of the discoverers of insulin, Michael Bliss showed that he is no idolater, but an objective seeker after the truth of his subject's life and character. In his new book, he has sought what he calls "the real Osler," and he has done it with the fervor of one who in the past showed that he could write "frankly about a Canadian icon who was a mediocre scientist, a boor, and a chauvinist."

It must have been tempting to seek smears on Osler's revered image too, and a historian as respected by his professional colleagues as Bliss can be depended upon to have tried his utmost to do just that. "[I]t did not particularly matter to me how he turned out as a human being," he writes in his preface, and we know that he can be taken at his word, especially in this day when debunking is almost the vocation of biographers. But turn Osler's pockets inside out though Bliss would, only gold coins came forth, as they always have when others tried. Portraits, pockets, mix what you will. In every metaphor, Osler comes up clean:

> These chapters are as fair-minded and objective a portrait of Osler as I can produce, using every tool of my trade.

> Immersing myself in the sources, expecting them to make possible a reasonable amount of icon-bashing, I gradually found myself becoming struck by the power of the Osler image. Osler worship was more widespread than I had realized and was more heartfelt, less self-interested or promotional than I had anticipated. Osler shone partly by comparison with many of his colleagues, but it became clear to me that he was a man who would have stood out, did stand out, in any crowd—except that he had a habit of disappearing from crowds to find some children to play with. Nothing struck me more forcibly about the beauty of Osler's personality than the magic he could generate with little children. It shines in scores of his wonderfully whimsical, loving notes and in dozens of anecdotes and memoirs, many more than are recounted here...
>
> His was a life that stands up almost too well to critical dissection, even microscopic scrutiny. In an age when biographers make their reputation by claiming to have discovered hidden internal derangements in their subjects, this project has been an unusual intellectual autopsy, at times something of a modern biographer's nightmare. Try as I might, I could not find a cause to justify the death of Osler's reputation. He lived a magnificent, epic, important, and more than slightly saintly life.

There is that word: *saintly.* Does it mean that Bliss has written a hagiography, whether in the classical sense of its being the life of a saint or in its current usage, carrying the implication of memorializing an exemplary subject whose flaws are minor? The answer to both questions is yes, for William Osler really was a kind of medical saint; and it is reassuring to those of us who have long worshiped at his figurative shrine that no amount of scratching at his holiness has marred the sheen of the halo under which he stands. In fact, thanks to Bliss's uncompromising search, it shines more brightly than ever. Sometimes hagiography is only truth.

Is the biography of a saint filled with sameness, and tedium, and the monotony of one good work after another? Is the life of a saint so removed from common experience that nothing can be learned from it except the impossibility of any effort at emulation? In this case, the answer to both questions is a resounding no, at least in the hands of Bliss. Like all saints, Osler was a living, breathing human being before being canonized, and a colorful one at that. He played outrageous practical jokes, invented an alter ego with a bawdy sense of humor, charged enormous fees (but only to the very wealthy among his patients, of whom there were many), was rumored to have fathered an illegitimate child by his cousin, and offended an entire generation by advising, in a widely reported address, that men beyond the age of sixty should be chloroformed until dead.

Bliss tells a good story, and there are plenty of good stories to be recounted, as he follows his peripatetic subject from the backwoods Canadian parsonage where he was born until his death as Sir William Osler, the Regius Professor of Medicine at Oxford and the most famous doctor in the world. In fact, the stories go well beyond Osler's physical death, to the memorializations of his life that have taken various forms over the past eight decades, not neglecting such vignettes as the author's personal experience of the ultimate shrine, in the Osler Library at McGill: "I was working on this biography in the Osler Library, sitting at Osler's desk, one day in September 1997 when a freshman student at McGill quietly slipped into the inner sanctum and, in an act of secular worship, placed at the foot of the Osler plaque a bouquet of flowers and a card asking for Osler's blessing."

William Osler was born in 1849, the eighth of nine children, to English immigrants to Ontario. (The youngest died when Willie, as he was called, was four, so he was raised as the youngest.) His father, Featherstone Lake Osler, had abandoned a promising career as a British naval officer at the age of 28 to become a minister of the Church of England, and settled with his wife in the area north of Toronto, then little better than a wilderness. In time, he became Canon in charge of the parishes of Dundas and Ancaster, and a prominent figure in the religious life of the area.

At school, Willie was a fine athlete and a bit of a gymnast, given to more pranks than he could get away with. But for an accident, he might have followed his father into the ministry. During a prolonged recovery from a football injury shortly before becoming a student at the Trinity College School, the 17-year-old Osler saw a great deal of the institution's warden, the Reverend William Johnson, a man intrigued by the study of nature and adept with the microscope, a tool of research beyond the comprehension of all but a very few advanced thinkers of the time. Johnson shared his interests with Willie, who soon caught his teacher's infectious fascination with the wonders that could be revealed once the instrument had been mastered.

Shortly after entering the school, the boy's growing obsession with natural history came into full flower, as it were, under the tutelage of one of the instructors, Dr. James Bovell. From his earlier tendency toward the ministry, Willie soon found his interests diverted toward a medical career, and he entered the Toronto School of Medicine in 1868, where Bovell also taught in addition to his position at the Trinity College School. Bovell's influence on his young follower was profound: "By far the dominant personality in Osler's life during his medical studies in Toronto was James Bovell," Bliss writes. "Osler worked with Bovell constantly during the first year and lived in his house the second. In fact, his Toronto medical training was virtually an apprenticeship to a medical father figure."

The Toronto School of Medicine was hardly the place to acquire what passed for a first-rate medical education, and had it not been for Bovell, the two years spent there would have been of very little value as anything but preparation for the routine and largely ineffective medical practice of the time. When the underpaid and underappreciated Bovell emigrated to the West Indies, Osler transferred to Canada's best medical school, the McGill Faculty of Medicine. Here he came under the tutelage of the scholarly Dr. Palmer Howard, who became the third of the men he would call his great mentors.

With Howard's encouragement, young Osler began what would be his lifelong dedication to studying disease by means of postmortem examination. He became extremely adept not only in the technique of autopsy, but in the direct and microscopic study of pathological tissues. Osler's doctoral thesis survives only in fragments, but a brief quote from its introduction appears to encompass the philosophy that would become the guiding principle of his approach to the understanding of the processes of disease; and it proved also to be the basis of his ability to teach others what he had learned, in a form so indelible and even dramatic that sickness and organ pathology took form before students' eyes as he spoke at the bedside and demonstrated his findings while examining patients: "To investigate the causes of death, to examine carefully the condition of organs, after such changes have gone on in them as to render existence impossible and to apply such Knowledge to the prevention and treatment of disease, is one of the highest objects of the Physician." The year was 1872. Osler was 22. Had he been asked about this statement half a century later, near the end of his long and illustrious career, he would doubtless have agreed with his younger self.

Having obtained his degree, Osler spent more than a year studying and working in England before going off to the medical meccas of the time, the great hospitals and schools in the German-speaking countries. Only there were the beginnings of truly scientific medicine to be found. Research was the focus of the German universities, and postgraduate education was a major priority, so much so that physicians from the entire world made their way there in order to partake of the most advanced techniques and the instruction of the greatest authorities. In Vienna alone, some 10,000 American doctors undertook various kinds of formal postgraduate studies between 1870 and 1914. A high percentage of America's next generation of medical researchers and teachers came from that group.

When William Osler returned to McGill to become a lecturer in medicine in the fall of 1874, he had absorbed the best of German methods. He knew how medicine should be taught, and he was ready to start his career in the academic arena. The beginning was difficult. The sparkling style that could hold the attention of a lecture hall full of entranced students or captivate a small group on bedside rounds did not spring fully formed, and took some months for the inexperienced young teacher to display. Still, he did not lack confidence, and once some initial awkwardness passed, Osler was well on his way.

He dealt with problems expeditiously and on the spot. Bliss illustrates this with a story. Some of the senior men resented their former fellow student's having been given such an elevated appointment, and they made their displeasure known by congregating outside his classroom and making as much noise as they could. Osler put up with the clamor for a few days and then posted a note on the bulletin board, asking that the seniors desist. The noise was even louder the next morning. The wiry little lecturer, whose full height was less than 5'6", took matters into his own hands. "After standing it for a while Osler opened the door, stepped into the corridor, pulled off his frock coat, and challenged the best man to step forward and fight it out with him. No one came forward, and peace and quiet reigned thereafter." This was the same Willie Osler who as a teenager had noted a smallish friend being manhandled during a football game by a boy described by onlookers as "one huge bully," and leaped up to punch the lout in the jaw, which "sent him to the ground and thence to bed for a week." Willie was no shy scholar.

During his second year as a lecturer, Osler ordered 15 microscopes for his students, paying for them with money that he had earned caring for smallpox patients (and in the process contracting a light case of the disease). The purpose of the instruments was to enable him to begin what would be the first of his many pedagogical innovations—the teaching of a practical course on microscopy that was meant to help the young men study not only pathological tissues but also to examine the blood and the bodily secretions of patients. The magnitude of this step was enormous. There was no such course in any American or Canadian school at the time.

Throughout the McGill years, the young instructor continued his assiduous autopsy work, carried out clinical research, treated the sick, and taught. And he did it all with a cheerfulness that sometimes bordered on gaiety. He seemed always in a good mood, and always to have time for a student or a colleague who might need a few minutes with him. His way was a smile, words of warm encouragement, and an arm draped over a young shoulder, or perhaps a gentle touch on the arm. He was immensely popular with the young people and rapidly gained the respect and even the affection of his colleagues on the faculty. And he apparently—no, genuinely—liked everyone.

The school seemed to expand, to become ever greater, as though in response to his bursting energy. Bliss entitles this chapter in Osler's life "The Baby Doctor," and so it must have seemed to those who watched and admired the precocity with which such a young man took on the role of a teacher much older than his years. Honoring itself as well as him, the history of the McGill Faculty of Medicine refers to this period as "The Osler Years."

The decade of the 1880s was perhaps the most exciting brief period that had ever occurred in the 2,300-year history of Western medicine. The germ theory of Louis Pasteur, Robert Koch, and Joseph Lister gained acceptance during that time, and one disease after another was shown to be caused by some specific organism. Medical thinking was transformed. William Osler was one of very few men on this continent equipped fully to comprehend the magnitude of the changes about to take place in research and later in practice. His unique expertness with the microscope, his studies with leading scientists in Vienna and Berlin, his focus on the study of pathological tissues as guides to the understanding of disease processes, his youthful energies and enthusiasms: all of these combined to guarantee that the new discoveries so rapidly emerging from European laboratories would find practical use in his hands, not only in the study of sickness but also in the teaching of students.

In 1884 the medical school of the University of Pennsylvania, America's oldest and one of its best, called Osler to the chair of medicine. Osler's departure was a devastating blow to McGill. Their finest teacher and the man called by Palmer Howard "the one single disciple of science" in the school was escorted to the train station by the entire student body. He was on his way to the next phase of the journey that would lead inevitably to Baltimore. The geographic progression southward was partnered with the academic progression upward.

In Philadelphia, Osler gave free rein to his determination that autopsy and microscopic study were the keys to understanding the evolution of disease. He conducted so many postmortem examinations that complaints inevitably arose about what must have been his sometimes cavalier attitude about permissions and the formal protocols required by the hospital authorities. Even in the flood of new scientific information he was discovering, however, Osler never neglected the humanity of his patients. The medical statistics and massing of cases into groups that were necessary to elucidate clinical conditions did not mislead him into forgetting the distinctiveness of each person who came under his care.

In 1886, Osler wrote of the necessity that a doctor have a profound knowledge of human nature, and stressed "the careful consideration which is given to every circumstance in the life and condition of the individual." Two years later, thinking about a visit he had just made to his famous patient Walt Whitman, he penned a note in his commonplace book: "A doctor does not treat typhoid fever, but he treats the *man* with typhoid, and it is the man with his peculiarities—his bodily idiosyncracies we have to consider." These were themes that Osler would reiterate for the rest of his life.

Osler was doing clinical research, writing journal articles, taking on a huge load of teaching, and lecturing to his medical colleagues in Philadelphia and elsewhere. In 1884, he was invited to London to follow centuries of distinguished British physicians by giving the Goulstonian Lectures, choosing to describe the pathological and clinical findings in two hundred cases of endocarditis and the role of bacteria in the disease. He described the inflammation that occurs in the inner lining membrane and valves of the heart and the streptococcal, staphylococcal, or other bacterial invaders that cause it. The three lectures were characteristic of Osler's approach in all his research writings: detailed clinical and pathological descriptions of distinct disease processes so accurate and so lucid that even in later years they could barely be improved upon. Osler would never become known for presenting grand conceptual notions or overriding theories of disease. His great gift was the presentation of material so finely and comprehensively observed that it was of enormous value to bedside physicians, pathologists, and even students.

But even all of those obligations did not consume his vast energies. Osler was the original "clubbable man" on whose "social instinct" Palmer Howard had remarked during the testimonial dinner in his honor when he left Montreal. Handsome and witty, the young bachelor became a favorite at Philadelphia social evenings. And he never could resist an opportunity to tease anyone in his vicinity. As the usually stern Hopkins nurse, Miss Nutting, put it after he grabbed a grapefruit off a basket one day and bowled it down a hospital hallway, "It was Dr. Osler, you know, and his behavior cannot be predicted."

Another of Osler's favored pastimes was the whimsical leading astray of his colleagues by inserting a bit of pseudomedicine into a weighty academic journal. While in Montreal, he had invented a mythical character called Dr. Egerton Y. Davis, a former U.S. Army surgeon who from time to time reported on his clinical activities, some of which had distinctly prurient overtones. In the December 13, 1884 issue of the *Medical News,* an editorial by Davis appeared, much of which Bliss records in his book, to give his readers the flavor of the Osler that was sometimes the despair of his friends, not to say the gracious Boston Brahmin he would marry a few years later. The editorial describes Egerton's experience attempting to treat a case of vaginismus, or spasm of the vagina occurring during intercourse. "A big burly coachman had been caught in bed with a wee maid, Davis wrote, and they could not be separated:"

> When I arrived I found the man standing up and supporting the woman in his arms, and it was quite evident that his penis was locked in her vagina, and any attempt to dislodge it was accompanied by much pain on the part of both. It was, indeed a case of 'De cohesione in coitu.' I applied water, and then ice, but ineffectually, and at last sent for chloroform, a few whiffs of which sent the woman to sleep, relaxed the spasm, and released the captive penis, which was swollen, livid, and in a state of semi-erection, which did not go down for several hours, and for days the organ was extremely sore. The woman recovered rapidly, and seemed none the worse.

Osler traveled frequently during the Philadelphia years, either to visit other hospitals and schools, to lecture, or to see patients in his rapidly expanding consultation practice; he was setting a pattern that would never be abandoned, though it did lessen considerably during his last years at Oxford. In 1886, he went to Baltimore to visit the campus of the new Johns Hopkins University, founded by the will of a wealthy Quaker merchant whose $7 million bequest (according to Bliss's calculation, it would be a bequest of $210 million today) was also directed toward building a hospital and a medical school. "It is the university of the future," Osler wrote to an Ontario friend, "& when the Medical school is organized all others will be distanced in the country." At that time, rumors were already flying around Philadelphia that their best medical teacher was soon to be offered the chair at Hopkins. The rumors were well founded. Osler traveled to Baltimore in September 1888 to accept the appointment.

And so the heady days began. The next 16 years would be a period of immense productivity, during which the Hopkins experiment was successful beyond even Osler's predictions. And so was he. His international fame grew, his clinical research flourished, and he was more popular a teacher than ever, if it is possible to imagine such a thing. The atmosphere of joy that he brought to everything he did, and the sense of high purpose that he conveyed, infected students with a love of medicine and an appreciation for the nobility of the calling they had chosen.

As in Montreal and Philadelphia, Osler introduced a number of pedagogical innovations, the most important and enduring of which was to bring students out of the lecture halls and onto the wards, as so-called clinical clerks, partners in the care of the sick. He called this "the natural method" of teaching. It had never been attempted in an American hospital, and it became the precedent upon which every teaching service would thereafter be based. Its purpose was clearly stated by Osler: "The student begins with the patient, continues with the patient, and ends with the patient.... [T]each him how to observe, give him plenty of facts to observe, and the lessons will come out of the facts themselves.... [T]he best teaching is that taught by the patient himself."

In 1890, the work on the monumental textbook began, upon whose publication not only Osler but all of American medicine stepped forward into a position to rival the Germans and eventually to exceed their greatest clinical stature. Subsequent editions benefitted from their author's relentless pursuit of new medical knowledge, not only in his own work at the medical school but also on the frequent trips he was making to European centers. As John Jacob Abel wrote to his wife in June 1892, in a sort of mini-biography of the man he had come to admire so much, Osler was "the *only* medical man I have ever met in America who *burns* to know. He began at 18. It makes me wild with envy, has been across eight times to study. Says whenever he gets 1,000 or 12,000 dollars he skipped off to Europe.... My talks with him have moved me afresh."

In 1890 Osler also married the 37-year-old Grace Revere Gross, the widow of a prominent Philadelphia surgeon and a direct descendant of the famous Revolutionary War courier. A son born nine months almost to the day after their wedding died shortly after birth, but within two years Mrs. Osler had given birth to a boy they named Revere, who would become the adored only child of his parents as they aged.

By the turn of the century, Osler's various sources of income—salary, book royalties, and consultation fees—were bringing him a huge income, in 1903 amounting to $47,000, or $1.4 million in today's money, some $9,000 of which he gave away. But the huge prosperity was coming at a huge price. His patients included the president, members of the cabinet, and many public officials and wealthy men and women, and such consultations often demanded travel over considerable distances. Between these and his visits to various medical facilities and universities he was out of town 33 times in 1901.

He was writing essays, and continuing his clinical research; and he had begun seriously to collect books. His home was the site of a constant whirlwind of social activities, what with students, colleagues, and all manner of visiting firemen being entertained, and often having the free run of the house. He began to complain about the pressures of it all. This was the busiest period of his life, and even his seemingly limitless energies were being severely tested: "The racket of my present life is too much for me. I am going downhill physically and mentally."

When a letter arrived in June, 1904 inviting Osler to become the Regius Professor of Medicine at Oxford, a position whose responsibilities were largely honorary, he gave it serious consideration. But Grace, who had become increasingly concerned about her husband's overwork, did more than that. She was determined that he should accept, and right away. Of the invitation, she wrote: "As I read the letter I felt a tremendous weight lifted from my shoulders as I had become very anxious about the danger of his keeping on at a pace he had been going for several years in Baltimore." She prevailed, but she met with virtually no resistance. On May 19, 1905, the Oslers sailed for England, and what was meant to serve as semi-retirement for the 56-year-old Chief.

Oxford proved to be all that was hoped for, though there was still plenty of demand for consultations, and the writing and the speechmaking continued unabated; and there were too many meetings to attend. But the Regius professorship proved a welcome relief from the unsustainable burdens of Baltimore. There was much more time for the beloved books and for the history of medicine, which Osler now began to study avidly after many years of intermittent attention.

His avenue of approach was in general biographical, and considerably more triumphalist than a modern historian might like. In Osler's view, the great personalities of earlier times "remind us continually that in the records of no other profession is there to be found so large a number of men who have combined intellectual preeminence with nobility of character." He never failed to stress the moral aspects of historical studies. It was for what he called "the silent influence of character on character" that he valued the study of the past, as well as for the events themselves.

As in all his other nonclinical writings, Osler's essays and the text published from the Silliman Lectures he gave at Yale in 1913, under the title *The Evolution of Modern Medicine,* are characterized by a style so conversational and so appealing that the writer seems to be standing at the reader's elbow. He has a way of capturing in one or two sentences the essence of a personality. Of the unpredictable and constantly angry Paracelsus, for example, the stormy petrel who convulsed the staid medical establishment of the sixteenth century by demanding radical reforms in clinical thinking, he wrote: "This first great revolt against the slavish authority of the schools had little immediate effect, largely on account of the personal vagaries of the reformer—but it made men think. Paracelsus stirred the pool as had not been done for 15 centuries."

From the perspective of distance, Osler watched as the fruits of his labors at Hopkins were being eagerly consumed in medical schools all over North America. Bliss is very good about presenting the professional background in which Osler lived and worked, so that a reader obtains a clear view of the importance and magnitude of the changes wrought by the existence of the Johns Hopkins Medical School and the critical role played by its Professor of Medicine.

> By 1909 the spirit of what everyone called 'modern' medical education was sweeping the United States and Canada as universities and medical schools made plans to join forces, lengthen courses, raise admission standards, pour millions into laboratories and hospitals, introduce clinical clerkships, and hire the best scientists and clinicians they could find.... Philanthropists and their foundations were about to pour resources into medicine, betting with their money that it offered more hope for the future than theology.

As Osler himself put it, "What an age of growth everywhere!" And well he might exult: much of this growth was the result of the recommendations that he had been advocating throughout his career.

The rewards for all the years of dedication began to pour in. The baronetcy conferred in 1911 was the highest of the honors, but offers of memberships, degrees, and presidencies aplenty came Osler's way. The applause never seemed to die down. The Oslers' home in Oxford was the center, as it had been in Baltimore, of a constant celebration of life. They watched in awe as Revere, at first a callow and unambitious youth, began to develop into a serious young man dedicated to books and devoted to his father. Willie and Grace loved England, and the years seemed charmed.

And then the lamps went out all over Europe. On August 14,1914, Great Britain went to war. Less than six months later, Revere joined the army as orderly to Dean F.S. Birkett, commanding officer of the McGill medical unit. He chafed under the inactivity and transferred to the artillery. Before long he was on a troop train to France, and his parents commenced the long vigil. On a brief leave he took from the front, they were proud of the change in him, of the thoughtful man he was becoming. Father and son fished together, and they spent many hours discussing books.

The carnage of the war was beyond anyone's imagination. Scarcely a family among the Oslers' acquaintance had not lost a son or sons, and the house was always full of Oxford men recovering from wounds. After Revere returned to the front, Grace wrote to a friend: "It broke my heart to look at him & to think I may never see him again—One stroke and all may be over." The stroke came on August 29,1917. Revere was hit by shrapnel and died a few hours later, after surgery in an attempt to stop internal bleeding.

The enchanted life of the Oslers was over. "We have been preparing for the blow," Osler wrote to the surgeon Harvey Cushing, who had been with Revere at the end. "I felt sure the fates would hit me through him. I have escaped all these years without a great sorrow, and have had so much in life, so much more, really, than I have deserved that I have all along felt we could not escape.... Poor Grace! It hit her hard; but we are both going to be brave, and take up what is left of life as though he were with us." They faced their loss with courage, at least externally, but Osler was a broken man. The following spring, Grace wrote to a nephew that he was "wrecked and heart-broken." She would "hear him sighing and sobbing his heart out at night." Another year passed before a semblance of normality returned to their lives, and even then they lived with the awareness that everything had changed, and their happiness would never return.

Seasonal upper-respiratory infections that had plagued Osler over the course of many years now began to be more common, and harder to shake off. He returned from a visit to Edinburgh in late September, 1920 with the beginnings of what appeared to be influenza, and his condition gradually worsened during the next few weeks. He developed pneumonia and then pleurisy, and after a time it became obvious that there was pus in his chest cavity. He suffered through several weeks of pain, needling of his chest, and finally a small operation done in his bed, in an attempt to remove the pus. But nothing helped. On the afternoon of December 29, he died following an intestinal hemorrhage. True to form, he had requested an autopsy, which was done in his own home on the following day. Bliss tells us that "Osler had said that he wished he could be present, having taken such a lifelong interest in the case."

Osler was dead, but Osler lived on. Although the numbers are now becoming small, medical students and grizzled physicians still occasionally seek inspiration by reading the many essays that he wrote on the medical life. Some are dated, but others are as fresh as the day he put pen to paper. Among many examples that may be quoted is the following, from an address to students at the University of Toronto in 1903:

> To you the silent workers of the ranks, in villages and country districts, in the slums of our large cities, in the mining camps and factory towns, in the homes of the rich, and in the hovels of the poor, to you is given the harder task of illustrating with your lives the Hippocratic standards of Learning, of Sagacity, of Humanity, and of Probity. Of learning, that you may apply in your practice the best that is known in our art, and that with the increase in your knowledge there maybe an increase in that priceless endowment of sagacity, so that to all, everywhere, skilled succour may come in the hour of need. Of a humanity, that will show in your daily life tenderness and consideration to the weak, infinite pity to the suffering, and broad charity to all. Of a probity, that will make you under all circumstances true to yourselves, true to your high calling, and true to your fellow man.

There were celebrations on the sesquicentennial of Osler's birth this past year, and speeches of tribute were heard, and reverential articles were published, particularly by the Osler Societies that to this day are composed of some of the leading physicians of Britain and North America. Many of those tributes recalled Osler's emphasis on the physician as humanist—his constantly reiterated counsel that the great books of the past and present hold the truths of our civilization, the truths that should be known by those who would presume to heal their fellows.

He drew up a list of ten books, in fact, that he called the *Bedside Library for Medical Students,* and recommended that it be used in a particular way: "Before going to sleep, read for half an hour, and in the morning have a book open on your dressing-table. You will be surprised to find how much can be accomplished in the course of a year." His big ten were the Old Testament, the New Testament, Shakespeare, Montaigne, Plutarch's *Lives,* Marcus Aurelius, Epictetus, *Religio Medici, Don Quixote,* Emerson, and the Breakfast-Table series of Oliver Wendell Holmes. Osler himself was the very physician that we have idealized—and rightly—in the never-ending but rarely heeded admonition that a healer should be a scholar of the humanities. He was so much the archetype of that scholar that the members of the Classical Society of Oxford elected him their president.

And now he has the biography that he has so long needed. In Michael Bliss, the spirit of William Osler has found a chronicler both scholarly and popular, a rare combination but a necessary one if justice is to be done to this uncommon man. At Lady Osler's request, Harvey Cushing undertook to do the job shortly after his friend's death, and published a two-volume study that won the Pulitzer Prize in 1926. The work quickly became a minor classic in the literature of medicine, and has been reprinted in numerous editions that adorn the libraries of all manner of physician-pretenders to scholarship. I have no fewer than four copies of my own, and never hesitate to show off by pulling out the first edition signed by Cushing and Lady Osler on the day of publication.

But that doesn't mean that I read the books. A few pages at a time is all I have ever managed to digest at a single sitting. The writing is too dense for pleasure, almost as though detail was more important to the writer than his reader's enjoyment. He must have thought Grace or his inspiration's shade would scold him if he left anything out. I have never seen the book's early reviews, but I suspect that the word "meticulous" must have appeared in many of them. Cushing's is a biography more honored than read, and for good reason. It is an archive of its subject's life, more a complete clinical description than a narrative.

Not so for Bliss's warm, engaging, and in places quite humorous book. This is the sort of writing that has the air of coming easily off the pen, in spite its scholarly documentation and the enormous wealth of research and erudition hidden between its lines. Bliss's panoramic biography has been as scrupulously documented as Cushing's, but one would hardly know it by reading it as I believe it is meant to be read: as a fascinating story about a fascinating man.

And William Osler is a fascinating man whom we need nowadays. In this time of cynicism, it is good to know that the earth can be inherited by those who have faith and trust in the improvability if not the perfectibility of humankind; in this time of bioethical conundrums, it is good to know that patience, good will, and personal morality will untie far more intellectual knots than the disarray of rancor, conflict, and special interests; in this time of great medical miracles it is good, and properly humbling too, to know that there have been other periods of miracles, and yet the ancient problems of health and human happiness remain, bringing new challenges to each succeeding generation. William Osler's life and his writings tell us of these things, but they are beginning to fade from the experience of all but a few men and women who seek them out. They need to be revived, and he needs to be heard again.

Sherwin B. Nuland, M.D.
Hamden

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CORRECTION

In the February issue of *Connecticut Medicine* (*Conn Med* 2000; 64:75) *Glaucoma and Race: A Case for Screening in Connecticut* by authors Philip Palmisano, M.D., Margaret M. Hynes, Ph.D., and Lloyd Mueller, Ph.D., the following information was omitted from the authors biography section: Margaret M. Hynes, Ph.D., M.P.H. Epidemiologist, Connecticut Department of Public Health, Hartford.

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CONNECTICUT MEDICINE (ISSN 0010-6178), published monthly at 160 St. Ronan Street, New Haven, CT 06511. Subscription rate included in membership dues. Non-members: $25.00 per year. Periodicals postage paid at New Haven, CT and at additional mailing offices. POSTMASTER: Send address changes to Connecticut Medicine, 160 St. Ronan Street, New Haven, CT 06511-2312.

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Vol. 64, No. 4 *The Journal of the Connecticut State Medical Society* April 2000

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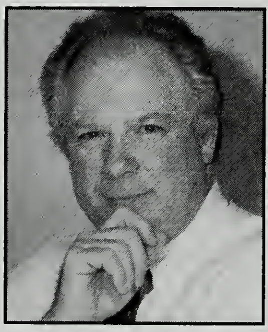

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Thyrotoxic Hypokalemic Periodic Paralysis
Case Report and Review of the Literature

CLAUDIO P. MILITE, M.D. AND DEBORAH S. GOLOB, M.D.

ABSTRACT: A rare complication of hyperthyroidism consists of sudden diffuse muscle weakness associated with severe hypokalemia. The clinical presentation is similar in most respects to familial periodic paralysis; however, the therapies proven to be effective differ in the two syndromes. A case of thyrotoxic hypokalemic periodic paralysis is presented and the literature is reviewed.

CASE REPORT: A 31-year-old male of Asian descent presented to the hospital with generalized muscle weakness occurring episodically over a few weeks culminating when the patient awoke from an afternoon nap and could not walk. He had no other symptoms. The patient had no significant past medical history. There was no history of toxic exposure or alcohol use. He was on no medications, lived alone, and ate most of his meals at fast-food restaurants. Family history revealed thyroid disease in the patient's mother and sister. His mother was from the Philippines and one maternal grandfather was Japanese.

Vital signs were normal. He had a symmetrically enlarged thyroid with no nodules. Cranial nerves II to XII were intact. He demonstrated profound proximal muscle weakness in the lower extremities (2-3/5), with minimal decrease in strength in the distal muscle groups (4/5). The upper extremities were also affected at 4/5 strength bilaterally. Sensation to light touch and pin prick were normal. Deep tendon reflexes were normal in the biceps and triceps, but hyper-reflexic at the patellas and ankles bilaterally. There was no Babinski reflex.

Laboratory tests revealed a potassium of 2.5 mmol/l, sodium 141 mmol/l, creatinine 0.6mg/dl, magnesium 1.4 mg/dl, liver function tests within normal limits. TSH was less than 0.1 mIU/ml (normal 0.38-4.7 mIU/ml), FTI 30.2 mcg/dl (normal 6.3-12.4 mcg/dl), T4 15.4 mcg/dl (normal 4.5-12.0 mcg/dl). T3 uptake 0.51 units (normal 0.66-1.27 units), erythrocyte sedimentation rate (ESR) 13 mm/h. Complete blood count was within normal limits. Aldosterone, renin, and cortisol levels were normal. Urinalysis was negative. Thyroid scan showed an enlarged gland with increased uptake consistent with Graves' disease. Thoracolumbar magnetic resonance imaging (MRI) was unremarkable.

Based on the above, a preliminary diagnosis of thyrotoxic periodic paralysis was made. The patient was placed on potassium and magnesium supplementation. He received a total of 100 meq of potassium chloride over several hours and 2 gms of magnesium sulfate with normal serum potassium and magnesium achieved within 12 hours of admission and maintained until discharge. Methimazole 10 mg t.i.d. was given as well as a beta blocker (metoprolol 25 mg b.i.d.). The patient slowly improved and was discharged on the third hospital day.

ABBREVIATIONS USED IN TEXT

ESR = erythrocyte sedimentation rate
FPP = familial periodic paralysis
FTI = free thyroxine index
MRI - magnetic resonance imaging
TPP = thyrotoxic periodic paralysis
TSH = thyroid-stimulating hormone

CLAUDIO P. MILITE, M.D., F.A.C.P., Attending Physician, Manchester Memorial Hospital and Rockville General Hospital, Internal Medicine/Nephrology, Northeastern Nephrology Associates, Veron; DEBORAH S. GOLOB, M.D., Attending Physician, Manchester Memorial Hospital and Rockville General Hospital, Internal Medicine/ Endocrinology.

He presented with another episode about a week after discharge with similar electrolyte abnormalities, still hyperthyroid. On this occasion, he had even more profound weakness, barely able to lift his upper extremities against gravity. Again, supplementation of potassium was undertaken with continuation of methimazole and beta blocker. Acetazolamide 250 mg t.i.d. was added. Once again within twelve hours the electrolytes were corrected and the episode resolved. He was followed after discharge with progressive correction of hyperthyroidism and no further attacks.

Literature review.—Periodic paralysis has been described back to the 1800s. The connection with hyperthyroidism was first recognized in the 1930s when a group at the Mayo Clinic reported a series of four patients with exophthalmic goiter suffering attacks identical clinically to those seen in familial periodic paralysis.[1]

Familial periodic paralysis (FPP) and thyrotoxic periodic paralysis (TPP) are characterized by abrupt attacks of diffuse muscle weakness affecting predominantly the lower extremities and the proximal muscle groups although other muscle groups can be affected. The upper extremities and the trunk muscles can be involved. A progression from proximal to distal groups has been described as has a sparing of muscles innervated by the cranial nerves.[1–3] Generally, deep tendon reflexes are diminished although reflexes can rarely be maintained or increased.[4]

Episodes occur spontaneously although there are potential inciting agents. These include prolonged strenuous exercise, high carbohydrate meals with resulting hyperinsulinemia, alcohol intake, emotional stress, cold exposure, menses, and infections. The onset of paralysis will often follow sleep and last from several hours to several days. The hyperthyroidism in TPP can be clinical or subclinical. In fact, the subtlety of the hyperthyroidism may explain a delay in diagnosis with attacks ongoing for months or years.[1–3]

Although the syndrome appears to have no long lasting sequelae once the hyperthyroidism is appropriately treated, complications including ventilatory failure, cardiac arrhythmias and even sudden death from ventricular fibrillation have been reported.[5]

Studies from Japan and China report that from 1.8% to 8.8% of hyperthyroid patients suffer the syndrome.[6,7] The American incidence of thyrotoxic periodic paralysis (TPP) is not available although in a Mayo Clinic study spanning two decades, 0.1% to 0.2% of thyrotoxic patients were diagnosed with the syndrome.[8] It is by and large a disorder of males. In a review of 49 American cases, only one female was indentified.[2] Although most patients worldwide are of Asian descent, several studies and multiple case reports have documented representation of whites, Hispanics, and Native Americans.[9,10] It remains exceptionally rare in African Americans.[2,11]

The pathophysiology of TPP is thought to center on a potassium shift from extracellular to intracellular as a result of increased Na K ATPase activity. Total body potassium remains unchanged, but serum potassium drops precipitously and to critical levels. While one case report sites an episode of TPP with a normal serum potassium, hypokalemia remains an essential element of the syndrome.[12] Thyroid hormone has been proven to increase the activity of Na K ATPase in various tissues including skeletal muscle and kidney.[13] Additionally, androgens increase and estrogens decrease this activity possibly explaining its higher incidence in males. Also, Na-K pump activity is induced by B-adrenergic stimulation with administration of epinephrine precipitating attacks and beta blockers potentially preventing them. Whether the hypokalemia in TPP is the principal cause of the flaccid paralysis is not at all clear. Given the same level of potassium, a euthyroid patient would likely not be affected.

The therapy is based on attempting to stabilize the membranes of cells and supplementing potassium while as quickly as feasible correcting the hyperthyroid state. As seen in our case, until that is accomplished, there will be continued susceptibility to this endocrine emergency. If a patient receives radioactive iodine and eventually requires thyroid replacement for hypothyroidism, a further consideration is close monitoring of thyroid-stimulating hormone (TSH) to avoid overly exuberant replacement and the tendency to further attacks.

While awaiting the euthyroid state, one should attempt to avoid inciting causes, notably prolonged or strenuous exercise and high carbohydrate meals. Insulin is known to increase the activity of Na K ATPase. Potassium replacement is given on an ongoing basis although there is no consistent evidence that it prevents attacks. Generally there are normal potassium levels between attacks and resolution of hypokalemia during attacks probably occurs spontaneously. Potassium replacement during an episode is done as much for prevention of dire consequences such as cardiac arrthymias as for the prospect of hastening recovery.

Beta blockers have been found to be beneficial both by preventing and terminating attacks with at least some evidence that propranolol is superior to metoprolol, thus suggesting a B2 adrenergic specific mechanism.[15] Several other pharmacological agents may have a role in prevention. Acetazolamide has been particularly successful in patients with FPP, however, its efficacy in TPP is equivocal. One study from the 1960s showed benefit in at least some patients with the syndrome, but later studies refute this finding.[16] Spironolactone has been utilized because of its tendency to mitigate hypokalemia, but has shown no superior benefit over potassium replacement alone.[2] The predominance of males with TPP and possible role of estrogen in decreasing the sodium pump activity make the use of stilbestrol logical. One case report suggests that stilbestrol may be effective in decreasing the frequency of attacks.[2] The calcium channel blocker verapamil was shown in a small study to have no beneficial effects.[17]

Discussion

Our case is a fairly typical example of TPP. The patient is of Asian ancestry, presenting with several weeks of waxing and waning symptoms, culminating when he awoke from an afternoon nap and could not arise from bed. His examination revealed classic features including predominantly proximal muscle weakness of the lower extremities. Electrolyte abnormalities included profound hypokalemia and mild to moderate hypomagnesemia. These were quickly reversed suggesting that the shift of potassium was the major culprit.

Therapies included potassium and magnesium supplementation. Beta blockade was added as was acetazolamide, despite the equivocal benefit in previous studies. What is underscored by our experience is the crucial importance of definitive treatment of the underlying hyperthyroidism. The patient was started on methimazole but there was some delay in achieving a euthyroid state and thus a continued tendency towards hypokalemic periodic paralysis episodes. Until the patient is euthyroid, other measures may decrease attack severity and frequency, but complete resolution will not occur.

In the patient reported here, Asian ancestry probably increased his risk of developing TPP. This stresses the importance of an in depth family history while including the diagnostic consideration of TPP regardless of racial origin.

Summary

Thyrotoxic Periodic Paralysis is a rare syndrome predominantly affecting Asian males consisting of clinical or subclinical hyperthyroidism, flaccid paralysis and critical hypokalemia. We report a fairly typical case of this rare syndrome. Definite therapy requires appropriate treatment of the hyperthyroidism although potassium supplementation and beta blockers are of benefit until euthyroidism can be achieved.

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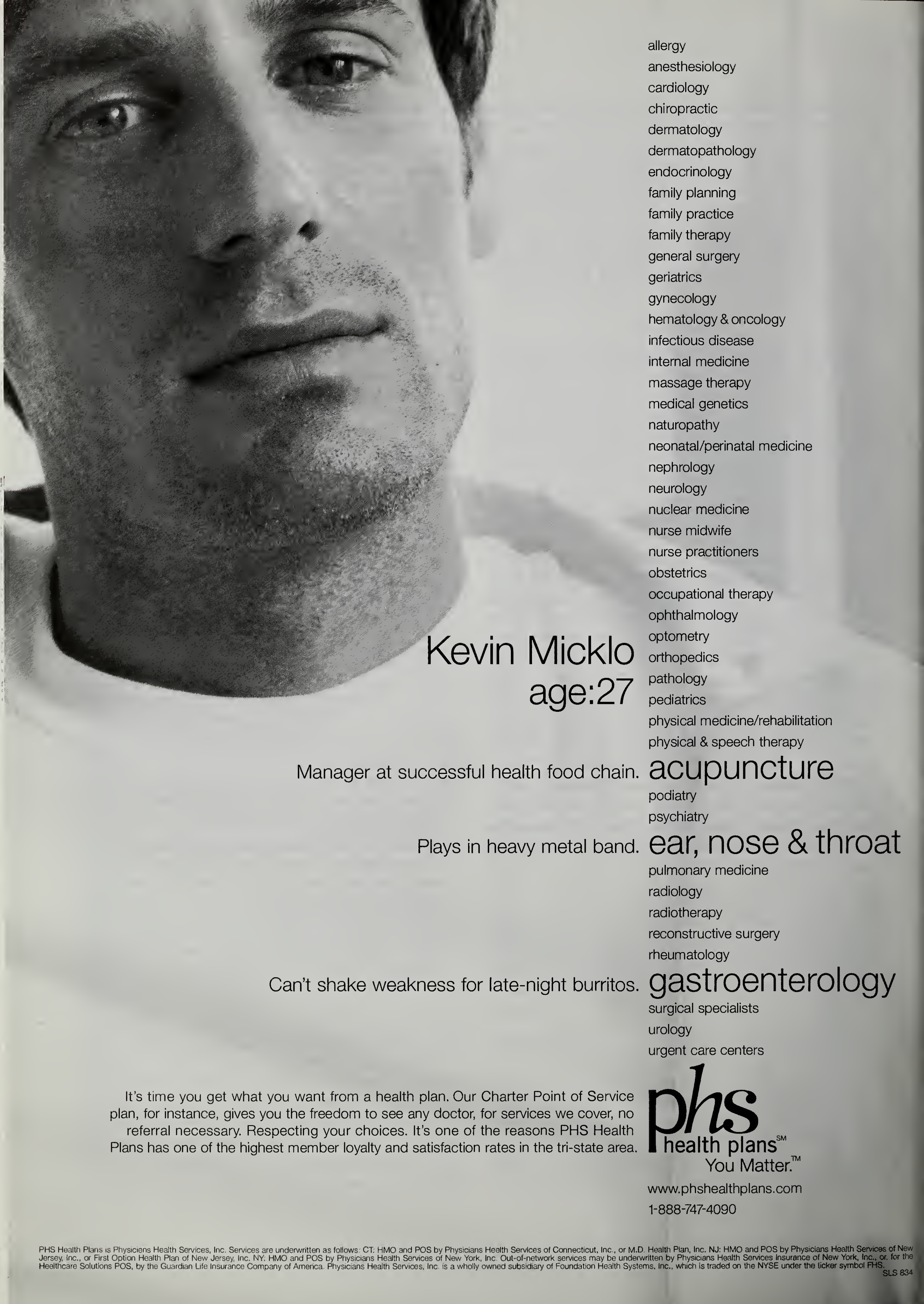

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Use of the Nd-YAG Laser Improves Quality of Life and Economic Factors in the Treatment of Hemorrhoids

KHALIQUE S. ZAHIR, M.D., RANDOLPH E. EDWARDS, M.D.,
ANTHONY VECCHIA, M.D., STANLEY J. DUDRICK, M.D.,
AND GIUSEPPE TRIPODI, M.D.

ABSTRACT—*Purpose:* Hemorrhoidal disease may benefit from the use of Nd-YAG laser to decrease surgical recovery time, postoperative hospital stay and complications. *Methods:* Fifty patient charts from 1993 to 1998 were reviewed retrospectively to evaluate postoperative complications and overall patient satisfaction following hemorrhoidectomy. We used the Nd-YAG laser from Surgical Laser Technologies CL60 with the ERP4 sapphire tip and the setting of 20 watts on continuous wave mode. Coagulation posthemorrhoidal excision of the remaining tissue was done using 60 watts pulse wave setting of 0.3 seconds. *Results:* Laser treated hemorrhoidectomy patients experienced less pain than the standard hemorrhoidectomy patients. One week after surgery, the laser treated patients had 65% less pain than the standard hemorrhoidectomy patients. Painless defecation occurred earlier in the laser treated patients by five days and postoperative drainage was less than standard surgically treated patient. Surgical and hospital costs were lower by 27% and 11% respectively in the laser treated group. 88% of the laser treated patients *vs* 44% of the standard patients resumed work at one week after surgery. *Conclusions:* Nd-YAG laser treated hemorrhoid surgery patients had a quicker recovery and earlier return to work.

Introduction

Hemorrhoid disease is a common health problem, and despite surgical excision being often curative after unsuccessful conservative therapy, quality of life and economic issues remain an important part of the optimal treatment regimen.[1-4] Laser usage has been revolutionary intraoperatively in most of its surgical applications.[5] Currently, economic considerations have suggested that use of the laser may be beneficial in conditions in which postoperative recovery time and hospital stay may be shortened and complications minimized.[6-9]

There has been some previous literature regarding the use of Nd-YAG laser in the treatment of hemorrhoidal disease, however, the standard of care for hemorrhoid treatment has changed with the advent of overnight patient treatment plans and incentive for early return to work for patients.[9,10,11] The purpose of our study, was to review patients who had been treated for advanced internal and external hemorrhoidal disease by Nd-YAG laser or scalpel technique and evaluate the difference in quality of life and economic factors in hemorrhoidectomy patients managed with and without use of the laser.

Methods

Patients' charts at St. Mary's hospital from 1993 to 1998 were eligible for retrospective review. Fifty patient charts were reviewed, 25 had undergone standard Ferguson hemorrhoidectomy and 25 patients had undergone Nd-YAG laser excision for treatment of hemorrhoids. Data were reviewed including length of surgical procedure, cost of procedure, postoperative complications, time period required to return to work, and overall patient satisfaction. Also evaluated were the first painless bowel movement after surgery, type of anesthesia, and postoperative drainage.

KHALIQUE S. ZAHIR, M.D., RANDOLPH E. EDWARDS, M.D., ANTHONY VECCHIA, M.D., STANLEY J. DUDRICK, M.D., F.A.C.S., GIUSEPPE TRIPODI, M.D., F.A.C.S., Department of Surgery, St. Mary's Hospital / Yale University School of Medicine, Waterbury, Department of Plastic Surgery, Vanderbilt University School of Medicine, Nashville, Tennessee.

Table 1.—Hemorrhoid Demographic Data

Number	Laser (n=25)	Surgical (n=25)
Age (years)	46.8 ± 1.6	50.7 ± 2.5
Female/male	11/14	15/10
Hospital stay (days)	1.1 ± 0.1	1.3 ± 0.1
Operative time (min.)	54.7 ± 2.7	80.2 ± 3.1
Hospital cost ($)	3,190.43 ± 211.20	3,577.13 ± 276.87
Anethesia	25	25

The Nd-YAG laser group was operated upon by two laser proficient surgeons, and the standard Ferguson hemorrhoidectomy patients underwent surgery by the same surgeons. Fifty patient charts were randomly chosen for data investigation. Analysis of patient demographics were performed using nonpaired t-tests. The Nd-YAG laser used was *Surgical Laser Technologies CL60 with Sapphire Contact Tip.*

Our technique of hemorrhoidectomy involves the anesthetized patient placement in prone jackknifed position. The operative field is prepared using chlorhexidine. Upon manual dilation of the rectum, a retractor is placed into the rectum to gain optimal exposure. The prolapsed hemorrhoid is elevated into the operative field and divided from the underlying tissue using the laser (Fig. 1). The laser is set at 20 watts of power on continuous wave 1,064 nm laser, with the sapphire contact laser ERP4. After hemorrhoid excision, the remaining hemorrhoidal tissue is coagulated with 60 watts of power on pulse wave at 0.3 seconds (Fig. 2). The ERP4 sapphire tip is used as the Nd-YAG laser excises hemorrhoidal tissue. Remaining hemorrhoidal tissue is coagulated and hemostasis is achieved after removal of the sapphire tip, thereby using the "free beam" on pulse mode to effectively coagulate the submucosal tissue. There is a clear advantage in using the Nd-YAG laser over the electrocautery in that there is less tissue destruction. The Nd-YAG laser is better in our experience because of the excellent thermal coagulation without tissue destruction. After hemostasis is fully achieved, the rectal mucosa is approximated with a running absorbable suture, leaving a small area open at the anocutaneous junction for drainage (Fig. 3). The goal of the opening is to prevent submucosal fluid accumulation and allow an access port for the relief of serous fluid accumulation.

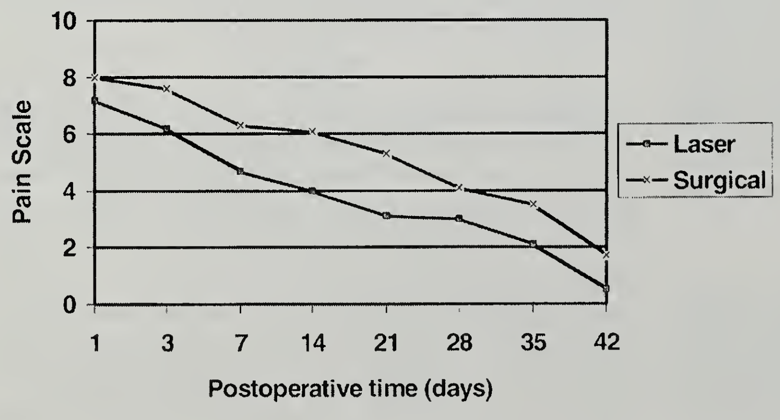


Table 2.—Patient Reported Postoperative Pain

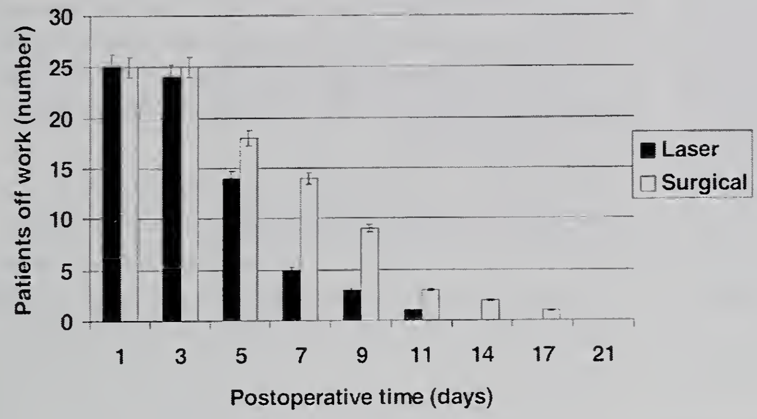
Postsurgical care for both laser treated and standard surgical hemorrhoidectomy patients included the local injection of 0.25% Bupivicaine (5 cc's) and 2% lidocaine jelly applied on a gauze packing for further pain relief. Each patient was given oral pain medication and twice daily stool softeners. In addition, Sitz baths were employed the first day postoperatively when the 2% lidocaine packing was removed.

Each patient was contacted by telephone and asked to grade the severity of pain on the first day following operation and subsequent days using a pain scoring system based on a scale from zero to 10, with zero indicating "no pain" and 10 representing "the worst pain imaginable" to the patient. Data was collected from each patient within three to six months of their operative procedure. Demographics representing the pain intensity on the first day after the operation and the first week after the operation are tabulated in Table 1. The occurrence of the first bowel movement and the first painless bowel movement are tabulated in Table 2.

Results

The charts of 50 patients were reviewed, and each patient was subsequently contacted by phone. The average age was similar in both the laser and conventional surgical groups, 46.8 ± 1.6 and 50.7 ± 2.5 years, respectively. Slightly more women underwent the standard Ferguson surgical procedure than the laser treatment. Hospital stay was similar with only four patients staying overnight in the conventional surgical group compared with one patient in the laser treated group. The operative time had statistically significant differences in overall operating room time with a shorter time period of 54.7 ± 2.7 minutes for the laser treated group. The surgically treated

Table 3.—Postoperative Recovery Period



group had an average operative time of 80.2 ± 3.1 minutes which was 25.5 ± 2.9 minutes longer. Operative costs were statistically greater in the surgically treated group by approximately $387 ($P < 0.05$). The cost of using Nd-YAG laser was $310 per procedure (Table 1). All of the patients who underwent either form of hemorrhoidectomy received general anesthesia.

To assess pain postoperatively, patients were asked to report their pain using a subjective analog scale of zero to 10. The score of zero represented no pain and 10 represented severe pain. The data (Table 2) showed that patients who were treated by laser had pain postoperatively, but less than the surgically treated group. Patients from both treatment groups had similar utilization of meperidine and morphine sulfate, and all were converted to oral propoxyphene upon discharge. The average hospital stay was 1.1 ± 0.1 days for the laser treated patients compared to the 1.3 ± 0.1 days for standard surgically treated patients.

Postoperatively, perianal abscess occurred in 8% of the conventional surgically treated group, but urinary retention occurred in both groups (Table 4). The two patients with perianal abscesses were identified on days seven and 14 postoperatively, and the single wound dehiscence was identified prior to the first postoperative outpatient visit.

Postoperative recovery period was tabulated assessing return to activities of daily living. Eighty percent of those patients who underwent laser hemorrhoidectomy returned to their normal activities of daily living seven days after surgery, compared to the 44% of conventionally treated patients who returned to work one week after surgery. The laser treated patients had a statistically significant ($P < 0.05$) return to work within one week compared to the conventionally treated group.

Discussion

Conventional hemorrhoidectomy procedures have been used to alleviate problematic hemorrhoidal conditions. However, pain and other postoperative complications can adversely effect patient satisfaction. Although many modalities have been employed to treat symptomatic hemorrhoids, complete removal of the abnormal tissue by any reasonable and effective technique is the most important goal. Other modalities to treat internal and external hemorrhoids include bipolar coagulation, cryotherapy, rubber band ligation, and sclerotherapy.

Our technique of Nd-YAG laser hemorrhoid excision is similar to the standard Fergusson hemorrhoidectomy, however specific attention is directed to the continuous mode of laser treatment with 20 watts of energy used. The ERP4 sapphire tip is used during the continuous wave of hemorrhoid excision to cut tissue with the least amount of thermal destruction. If hemostasis is required after excision of the hemorrhoidal tissue, the sapphire tip is removed to give a continuous "free beam" of the Nd-YAG laser in a pulse mode set at 60 watts. Remaining hemorrhoidal tissue outside of the usual anatomic hemorrhoidal venous plexus is eradicated with the pulse mode laser usage. The mechanism of the Nd-YAG laser allows for coagulation of vascular tissue below the submucosal layer without significant thermal damage to the submucosa.

Our review of these 50 patients showed clear advantages using the Nd-YAG laser compared with conventional surgical technique. Although the laser is an extension of the surgical procedure and costs $310 per operative use in our unit, the overall outcome benefits are significant.

Our data showed a statistically significant shorter operative time with use of the laser. The average operating time for the laser treated patients was 54.7 ± 2.7 minutes compared to the surgically excised hemorrhoids which averaged 80.2 ± 3.1 minutes. There was a statistically significant difference in operative time by 25.5 ± 2.9 minutes. Using a graded pain scale postoperatively, pa-

Table 4.—Postoperative Complications

Complication	**Surgical** (%)	**Laser** (%)
Urinary retention	2/23 (8%)	3/25 (12%)
Perianal abscess	2/25 (8%)	0.25 (0%)
Dehiscence	1/25 (4%)	0/25 (0%)

tients in the laser group reported less pain than patients in the standard surgical group. All patients were contacted within three to six months of their operative procedure. The pain reported by the laser group was 22.3% less than that reported by the standard group one week postoperatively and 27.6% lower the following week. Our standard hemorrhoid patient regardless of surgical treatment regimen followed the 0.5% Bupivicaine injection around the anocutaneous junction and 2% lidocaine jelly packing. First day postoperatively, they were started on a stool softener regimen and oral pain medication and Sitz bath's.

Our experience suggests that the use of the laser achieves a "sealing effect" by the sufficient closure of the nerve endings and smaller vessel endings which in fact may be the reason for decreased lymphatic drainage and pain. The Nd-YAG laser itself causes tissue vaporization giving the appearance of clean edges using the laser tip. Placement of the contact tip with tissue dramatically improves energy utilization. Very little energy is reflected out of the surgical field and thus less is required to effectively vaporize the tissue. Our use of 20 watts of power allows for almost the entire use of the 20 watts for surgical excision. After complete excision of the hemorrhoidal tissue, remaining tissue is vaporized using the noncontact laser technique. The Nd-YAG laser is set at a higher power because of the loss due to refection and backscatter. The laser energy that reaches tissue exerts primary and secondary thermal effects. The primary effect is in areas where the tissue directly absorbs light energy and transforms it into heat. Adjacent areas of tissue exposed to the primary thermal effects undergo the secondary thermal effect through conduction of heat.[8] The use of standard electrocautery of tissue causes more collateral tissue injury through a "charcoal effect" which does not always create the active coagulation of deeper tissue.

Perhaps the most significant information acquired was related to the recovery period of the two groups. Eighty percent of the laser treated group returned to work at full capacity by postoperative day seven compared with only 44% of the conventionally treated group.[7] This is a important issue for patients who plan to undergo a therapeutic intervention for hemorrhoids with the shortest recovery period, lowest cost, least postoperative pain, and fastest return to work. Traditionally hemorrhoidectomy patients were treated with surgical intervention and four to seven days of hospital stay and discharge with a long convalescent period at home. With current Health Management Organization (HMO) standards, same day surgical care or 23-hour hospitalization is the currently accepted standard for patients undergoing hemorrhoidectomies.

Previous work by Leff[9] described the success and safety of outpatient based full three-quadrant hemorrhoidectomies. Although not evaluated in their experience was patient satisfaction and acceptance, our retrospective review addressed the patient satisfaction and reported postoperative pain. Leff states that except for added cost in using the laser there is no reason to not use the laser, however, our review has shown quicker return to work postoperatively and less postoperative pain as significant factors to use the use of Nd-YAG laser in the treatment of hemorrhoid excision.

Wang et al[6] had reported the use of the Nd-YAG laser for internal hemorrhoids and the use of CO_2 laser for external hemorrhoids. He states that the photocoagulation due to penetration by the thermal effect of CO_2 lasers allow the damaged tissue to become fibrotic later for the internal hemorrhoids. They suggest that Nd-YAG laser application to external hemorrhoidal tissue would cause shrinkage, vaporization, defects, and pain. Our patient population included a variety of Grade 1-4 hemorrhoids which were treated with Nd-YAG laser therapy excision, resulting in favorable patient satisfaction (Table 2).

This retrospective review has demonstrated the beneficial outcomes of intraoperative Nd-YAG laser treatment *vs* standard Ferguson surgical technique in hemorrhoid ablation in the important areas of patient satisfaction, quality of life, earlier return to work, and cost containment. Other authors have previously noted that the use of Nd-YAG laser increased cost without any benefit in surgical management.[12] However, surgical practices and standards have changed significantly since the initial use of lasers. As a result, operative hemorrhoidal treatment is increasingly accomplished on an outpatient basis with significantly lower pain reported by the patients and earlier return to work. Smith[11] and Senagore et al[12] had hospital stays of two to six days, whereas our patients have had a hospital stay of 1.1 days. This in turn has a significant impact on the economic factors both in patient work and time lost secondary to surgical intervention for hemorrhoids. The use of infrared laser therapy has revolutionized surgical care for patients who have skin and soft tissue disease.[13] Tissue effects can be either coagulation, vaporization or cutting of tissue depending upon the interaction between living tissue and laser energy.

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Twin Vaginal Birth After Cesarean

JOSEPH R. WAX, M.D., CHRISTINE PHILPUT, Ph.D., JEFFREY MATHER, M.S., JOY D. STEINFELD, M.D., AND CHARLES J. INGARDIA, M.D.

Presented at American College of Obstetricians and Gynecologists Annual Clinical Meeting, May 1999, Philadelphia, Penn.

ABSTRACT—*Objective:* To determine both success rate and maternal-fetal outcome of vaginal birth after cesarean in twin gestations. *Methods:* We identified all women from a single center attempting vaginal birth of twins after cesarean from 1988–98. Twin pairs were excluded for delivery ≤ 25 weeks gestation, monoamnionicity, nonvertex twin A, or major anomaly or death of either twin. Cases were matched to the next three consecutive twin gestations attempting vaginal delivery without a prior cesarean. Variables matched were gestational age at delivery (±1 week), presentations of both fetuses, labor onset (spontaneous or induced), and prior vaginal delivery (yes or no). The primary outcome was successful vaginal delivery of both fetuses. Secondary maternal outcomes included chorioamnionitis, hemorrhage requiring transfusion, hysterectomy, uterine rupture, and length of stay. Neonatal outcomes included one and five minute Apgars, NICU admission, and length of NICU stay. *Results:* Twelve parturients were matched to 36 controls. There were no differences between the groups with respect to maternal demographics, intrapartum variables, fetal genders, birthweights, or chorionicity. Women with a prior cesarean (10/12) delivered both twins vaginally compared to 31/36 parturients without a prior cesarean (*P*=1.0). There were no differences between cases and controls with respect to maternal morbidity (1/12 *vs* 4/36, *P*=1.0), or postpartum stay (2.5 ±1.0 *vs* 2.5 ±2.3 days, *P*=.25). Neonatal outcomes were similar by birth order, except that second-born twins of cases had significantly longer NICU stays than controls (22.7 ± 3.8 *vs* 10.4 ± 7.8 days, *P*=.04). *Conclusion:* Twin trial of labor after cesarean is associated with a high success rate of vaginal delivery but may be associated with a more lengthy NICU stay for the second twin.

VAGINAL birth after cesarean (VBAC) appears to be a safe alternative to repeat cesarean delivery, in the absence of contraindications.[1,2] Although twin births in the United States have increased by 42% since 1980,[3] continued assessment of the risks and benefits of a trial of labor after cesarean in women carrying twins is recommended.[1] Available studies of women with twins attempting a VBAC compare subjects to women carrying twins undergoing repeat cesarean without labor.[4-6] However, the majority of twin pregnancies are not delivered by cesarean before the onset of labor.[7] Thus, these studies do not provide entirely meaningful comparisons of twin VBAC to twin pregnancies laboring in the absence of a prior cesarean. Therefore, we performed a case matched control test of the hypothesis that the vaginal delivery rate and

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JOSEPH R. WAX, M.D., Assistant Professor of Obstetrics and Gynecology, University of Connecticut School of Medicine, Division of Maternal Fetal Medicine, Department of Obstetrics and Gynecology, Hartford Hospital, Attending Physician; CHRISTINE PHILPUT, Ph.D., works for PPD Development, Morrisville, North Carolina; JEFFREY MATHER, M.S., Research Analyst, Hartford Hospital; JOY D. STEINFELD, M.D., Assistant Professor of Obstetrics and Gynecology, University of Connecticut School of Medicine, Hartford Hospital Maternal-Fetal Medicine, Attending Physician; CHARLES J. INGARDIA, M.D., Assistant Professor of Obstetrics and Gynecology, University of Connecticut School of Medicine, Hartford Hospital Maternal-Fetal Medicine, Attending Physician.

maternal-fetal outcomes of a trial of labor with twins after cesarean are no different than those of laboring with twins in the absence of a prior cesarean.

Methods

Women with twin pregnancies undergoing a trial of labor after a low transverse uterine incision cesarean between 1988 and 1997 were identified through our computerized perinatal database. Each case was matched for gestational age at delivery (±1 week), fetal presentations, labor onset (spontaneous or induced), and prior vaginal delivery (yes or no) to the next three consecutive women without a cesarean attempting vaginal delivery of twins. Twin pairs were excluded for gestational age ≤ 25 weeks at delivery, monoamnionicity, nonvertex presenting twin A, and major anomaly or death of either or both fetuses. The primary outcome was successful vaginal delivery of both fetuses. Secondary maternal outcomes included chorioamnionitis, hemorrhage requiring transfusion, hysterectomy, or uterine rupture. Neonatal outcomes were assessed by one and five minute Apgar scores, NICU admission, and length of NICU stay. Statistical analysis was performed using the Fisher exact test, Chi square, or the Mann-Whitney U test, as appropriate. Significance was considered at $P<.05$. All neonatal characteristics were compared by birth order.

Results

Sixteen cases were identified, of which four were excluded from analysis. These exclusions included three twin sets for delivery ≤ 25 weeks and one for transverse lie of the presenting twin. Eleven women had one prior cesarean and one had three prior cesareans. Three women had one prior successful VBAC and one had two prior successful VBACs. Cases and controls were similar with respect to the matched variables and demographics of maternal age, ethnicity, and type of insurance. The mean gestational ages for delivery were 36.5 ± 2.1 weeks and 36.4 ± 1.7 weeks for cases and controls, respectively (P=.82). Labor characteristics potentially affecting vaginal delivery rate and maternal fetal outcome did not differ between cases and controls (Table 1).

Women with a prior cesarean were as likely as women without a prior cesarean to successfully deliver both twins vaginally 10/12 (83.3%) *vs* 31/36 (86.1%), P=.1.0). Two patients in the control group delivered twin A vaginally, but required cesarean delivery of the second twin, one for umbilical cord prolapse, and one for arrest of dilation (Table 2).

Maternal morbidity occurred with similar frequency in cases and controls. Chorioamnionitis developed in one patient attempting VBAC and four control patients (P= 1.0). There were no maternal deaths, hemorrhages requiring transfusion, hysterectomies, or uterine ruptures in any subjects. Mean postpartum stays were 2.5 ± 1.0 days for cases and 2.5 ± 2.3 days for controls (P=.25).

Newborn outcomes were similar in cases and controls, except that second twins born to mothers attempting VBAC had significantly longer NICU stays than second twins born to mothers without a prior cesarean (Table 3). Three second twins of study patients were admitted to the NICU for 27, 21, and 20 days, respectively. Two of these neonates remained in the NICU due to apnea of prematurity; one of them also exhibited persistent body temperature instability. While two of three controls for the latter fetus were admitted to the NICU, neither experienced apnea or temperature instability. The third case's 20-day stay resulted from intolerance of oral feedings. This infant's birthweight was also lower than those of its two matched controls who were admitted to the NICU (1,648g *vs* 1,800g and 2,402g), neither of whom had feeding difficulties. No perinatal deaths occurred.

Discussion

During the period 1980-1994, the number of twin births in the United States increased by 42%, while the twin birth rate rose by 30%.[3] Between 1984 and 1994, the national VBAC rate more than quadrupled, rising from 6.6 to 29.7 per 100 deliveries to women with a previous cesarean.[8] Despite these trends, few studies specifically address the efficacy and safety of a trial of labor in a twin gestation following a previous cesarean. No studies addressing these issues compare women attempting VBAC to women laboring without a prior cesarean. The paucity of such data has led to caution about recommending VBAC in twin gestations.[1]

Previous investigations show that 70% to 81% of women undergoing a trial of labor with twins after cesarean will successfully deliver both twins vaginally.[4-6] Up to 14% of these patients will deliver the presenting twin vaginally, but require cesarean delivery of the second fetus.[4-6] Interestingly, these figures approximate the singleton VBAC success rate of 60% to 80%.[1] Our data support these findings. In contrast to other reports, we matched cases to multiple controls for factors potentially confounding VBAC success and route of twin delivery, demonstrating that the VBAC success rate for twins is not apparently different than the vaginal delivery rate for twins of mothers laboring in the absence of a previous cesarean.

Major maternal morbidity associated with twin VBAC appears to be an uncommon event. Including the current study, no maternal deaths, hysterectomies, or uterine ruptures have been reported in 143 trials of labor in twin gestations after a prior cesarean.[4-6,9,10] In comparison, the risk of uterine rupture during a singleton VBAC after a low transverse uterine incision has been estimated to be

Table 1.—Intrapartum Characteristics by Cesarean History

	Prior Cesarean (n=12)	**No Prior Cesarean (n=36)**
Admission—delivery interval (hrs)	11.1±16.2	9.1±7.0
Duration of membrane rupture (hrs)	9.6±13.3	20.1±49.2
Cervical dilation at admission (cm)	3.8±2.0	3.7±2.0
Epidural analgesia	10	28
Oxytocin infusion	7	22
induction	1	10
augmentation	6	12
Cervical dilation at start of oxytocin (cm)	5.5±3.2	3.6±2.6
Maximum dose of oxytocin (mIU/min)	9.9±9.0	14.5±8.6
Duration of oxytocin infusion (hrs)	4.5±3.0	9.0±5.9

All comparisons not significant

Table 2.—Mode of Delivery by Cesarean History

	Prior Cesarean (n=12)	**No Prior Cesarean (n=36)**
Twin A		
spontaneous vaginal	8	19
operative vaginal	2	14
cesarean	2	3
Twin B		
spontaneous vaginal	6	18
operative vaginal	4	12
breech extraction	0	1
cesarean	2	5

All comparisons not significant

Table 3.—Neonatal Outcomes by Cesarean History

	Prior Cesarean (n=12)	**No Prior Cesarean (n=36)**
Twin A		
birthweight (g)	2,518±365	2,496±394
1” Apgar	7.8	7.9
5” Apgar	8.7	8.8
NICU admission	4	10
NICU stay (days)	17.3±8.1	9.5±6.9
Twin B		
birthweight (g)	2,555±469	2,602±522
1” Apgar	7.2	7.7
5” Apgar	8.8	8.7
NICU admission	3	9
NICU stay (days)	22.7±3.8*	10.4±7.8

*P=.04

0.2% to 1.5%.[1] Since the vast majority of these women had only one prior cesarean, no definite conclusions may be drawn regarding the safety or efficacy of a twin VBAC in patients with more than one previous cesarean.

Neonatal morbidity does not differ between twin pregnancies undergoing VBAC and those undergoing repeat cesarean in the absence of labor.[4-6] Our study demonstrated similar neonatal morbidity whether twins labored in the presence or absence of a prior cesarean. The apparently longer NICU stay of second twins born to mothers attempting VBAC may have resulted from a type I effect, as only three second twins of VBAC subjects were admitted to the NICU and the reasons for their NICU stays were apparently not related to complications of labor and delivery. The NICU discharge diagnoses for the second twins of VBAC subjects included apnea of prematurity (two) and rule out sepsis (two).

Our investigation shows that twin VBAC achieves a vaginal delivery rate similar to that of comparable twins and mothers laboring without a prior cesarean. Furthermore, this may be accomplished without incurring significantly more maternal-fetal morbidity. We encourage larger like-designed studies evaluating the efficacy and safety of VBAC for twin gestations.

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Quinupristin/Dalfopristin: A Treatment Option for Vancomycin-Resistant *Enterococci*

MYO-KYOUNG KIM, PHARM.D., DAVID P. NICOLAU, PHARM.D.,
CHARLES H. NIGHTINGALE, PH.D., AND RICHARD QUINTILIANI, M.D.

Introduction

PATHOGENIC *Enterococci* cause various infectious diseases, including nosocomial bacteremia, endocarditis, urinary tract infections, and intra-abdominal infections. Serious infections caused by *Enterococci* are commonly treated by a penicillin (ie, ampicillin) in combination with an aminoglycoside in order to achieve bacteriocidal activity. However, with infections caused by penicillin-resistant *Enterococci*, vancomycin should be selected in place of penicillins.

Vancomycin-resistant *Enterococci* (VRE) were first reported in Europe in 1988.[1] The percentage of VRE out of studied nosocomial *Enterococcus* isolates dramatically increased from 0.3% (1989) to 7.9% (1993).[2] Moreover, since 1996, cases of vancomycin-intermediate resistant *Staphylococcus aureus* (VISA; MIC=8–16mg/L) have been reported in Europe, Asia, and the U.S.[3-6] This trend triggered the development of multiple antibiotics with antibacterial activity against multidrug resistant *Enterococcus* and *S. aureus*. To date, with the exception of quinupristin/dalfopristin (Synercid®), most of these drugs are still in the investigational phase of development. Synercid® consists of quinupristin (RP 57669; pristinamycin I) and dalfopristin (RP 54476; pristinamycin II) in a fixed 30:70 ratio.

Mechanism of Action and Mechanism of Resistance

Quinupristin and dalfopristin (Q/D) bind to different sites on the 50S subunit of the bacterial ribosome; thus they act synergistically. Specifically, the proposed mechanism of synergistic action is that dalfopristin changes the conformation of the ribosome, increasing the affinity of quinupristin to the ribosome. This leads to a stable ternary antibiotic-ribosome complex, which hinders the removal of newly synthesized peptide chains from the ribosomes. This inhibition of protein synthesis causes cell death.[7-8]

The unique chemical structures and synergistic mechanism of action of Q/D makes it effective against bacteria resistant to other antibiotics, including β-lactam, glycopeptides, macrolides, and lincosamides. Unlike macrolides or lincosamides, Q/D is active against MLS_BC (macrolide-lincosamide-streptogramin$_B$ class) resistant phenotypes expressed by the *erm* gene because streptogramin group A (dalfopristin) is added to streptogramin group B (quinupristin). Q/D is also unaffected by active efflux mechanisms. In order to successfully inactivate Q/D, each of its components needs to be inhibited by type-specific enzymes. For example, the combination of *streptogramin A acetyltransferase* (inactivates streptogramin A) and *streptogramin B hydrolase* (inactivates streptogramin B) has been shown to attenuate the effectiveness of Q/D.[7-8] Until 1992, the incidence of Q/D-resistant strains of *staphylococcus* has been reported to be less than 5% in France.[9]

MYO-KYOUNG KIM, PHARM.D., Infectious Disease Fellow, Hartford Hospital; DAVID P. NICOLAU, PHARM.D., Coordinator for Research, Department of Medicine, Division of Infectious Diseases, and Department of Pharmacy Services, Hartford Hospital, and Adjunct Assistant Clinical Professor, University of Connecticut, School of Pharmacy, Storrs; CHARLES H. NIGHTINGALE, PH.D., Vice President for Research, Hartford Hospital, and Research Professor, University of Connecticut, School of Pharmacy, Storrs; RICHARD QUINTILIANI, M.D., Director, Antiinfective Research and Pharmacoeconomic Studies, Department of Research, Hartford Hospital, and Professor of Medicine, University of Connecticut, School of Medicine, Farmington

The series of Drug Information Updates from Hartford Hospital are provided by the Drug Information Center, Department of Pharmacy Services, Hartford Hospital. Editor: Robert A. Quercia, M.S., R.Ph., Moses Sing Sum Chow, Pharm.D. Editorial Board: D. Drezner, M.D., G. Gousse, M.S., R.PH., R. Quintiliani, M.D., J. Laut, M.D.

Microbiological Spectrum

The NCCLS-approved susceptibility breakpoints for Q/D are as follows;

• Susceptible	≤ 1mg/L
• Moderately susceptible	2 mg/L
• Resistant	≥ 4 mg/L

The most important spectrum of Q/D is its antimicrobial activity against vancomycin-resistant *Enterococcus faecium* (MIC_{90}; 0.5 mg/L). It is effective against Van A VRE (high-level resistance to vancomycin and teicoplanin) as well as Van B VRE (moderately resistant to vancomycin and sensitive to teicoplanin).[7] However, it is not effective against *Enterococcus faecalis* (MIC_{90}; 8 mg/L).[10] Although pathogenic *E. faecalis* is more common than pathogenic *E. faecium* in the U.S., *E. faecium* is the most common isolate responsible for vancomycin resistance. The selective coverage of Q/D limits its clinical utility, but Q/D should be evaluated as a prudent antibiotic option for the most common isolates of VRE. In addition to its anti-VRE activity, Q/D is active against most isolates of Gram positive organisms including methicillin-resistant *Staphylococcus aureus* (MIC_{90} of Q/D; 1 mg/L).[10] The *in vitro* spectrum of Q/D is as follows:[11]

Aerobic Gram-Positive Microorganisms

Enterococcus faecium
  (including vancomycin-resistant strains)
Staphylococcus aureus
  (including methicillin-resistant strains)
Staphylococcus epidermidis
  (including methicillin-resistant strains) and other *coagulase*-negative *Staphylococci.*
Streptococcus pneumoniae
  (including penicillin- and erythromycin-resistant strains)
Streptococcus pyogenes
Streptococcus agalactiae
Viridans group *streptococci*
Corynebacterium jeikeium
Listeria monocytogenes

Aerobic Gram-Negative Microorganisms

Moraxella catarrhalis
Neisseria gonorrhoeae
  (including *β-lactamase* producing strains)
Neisseria meningitis

Anaerobic Microorganisms

Porphyromonas asaccharolytica

Other Microorganisms

Chlamydia spp.
Mycoplasma spp.
Legionella pneumonia and other *Legionella spp.*

Pharmacodynamics

When the individual components of Q/D are considered separately, they display bacteriostatic activity against *Staphylococci* and *Streptococci.* In contrast, the combination of Q and D produces bactericidal activity. However, Q/D has bacteriostatic activity against *Enterococci.*[12] Several investigators have postulated that Q/D has either additive or synergistic effects against *Enterococci* when it is combined with other antibiotics such as vancomycin, b-lactams, or aminoglycosides.[13-14] Q/D has a prolonged postantibiotic effect (PAE) against Gram positive organisms. In the thigh infection mouse model, the time of duration for consistent antimicrobial activity is approximately six, 10, and nine hours with *E. faecium, S. aureus*, and *S. pneumoniae*, respectively when Q/D plasma levels are nondetectable.[8]

Pharmacokinetics

Q/D undergoes extensive metabolism in the liver and blood. Quinupristin is metabolized to a glutathione-conjugated derivative (RP 69012) and to a cysteine-conjugated derivative (RPR 100391) while dalfopristin is metabolized to pristinamycin IIa (RP 12536).[15] These metabolites have some antibiotic activity, but the clinical significance of these metabolites' activity remains to be established.

The clearance of Q/D and its active metabolites are significantly impaired in subjects with hepatic cirrhosis. The mean AUC of Q/D and its active metabolites in subjects with hepatic cirrhosis are 1.5-2.8 times higher than that in healthy subjects.[16] In subjects with severe chronic renal failure, the clearance of Q/D and its metabolites are reduced to a lesser extent than in cirrhotic subjects. The mean AUC of D in patients with renal failure (CLcr=5-20ml/min) is 30% higher than the mean AUC seen in healthy volunteers while those of Q remain unchanged in both groups.[17]

In vitro studies have shown that Q/D is a powerful inhibitor of the cytochrome P450 3A4 isozyme (CYP3A4) and therefore will interact with any drug that is metabolized by this route such as cyclosporin, nifedipine, midazolam, and terfenadine.[11] A healthy volunteer study demonstrated a significant interaction between multiple doses of Q/D (7.5 mg/kg IV q 8 hours X 9 doses) and a single dose of cyclosporine (three "100mg" Sandimmune, soft gelatin capsules administered 1.5 hours prior to the fourth dose of Q/D). The median area under the curve (AUC) and the half-life of cyclosporin changed by 63% and 77 % respectively.[18] Consequently, the manufacturer (Rhone-Poulenc Rorer) of Synercid, recommended a 40% reduction in the cyclosporine dose with concomitant administration of the two drugs.

In a study performed by Gaillard C, et al, it was shown that approximately 75% of Q/D was eliminated in the feces while at most 20% was excreted in the urine.[19] Since

Q/D and its metabolites are high-molecular weight compounds, they are unlikely to be cleared through hemodialysis. In addition, Johnson CA, et al demonstrated that Q/D and its metabolites are negligibly cleared by peritoneal dialysis.[20]

The pharmacokinetic parameters (dose=7.5mg/kg, q8hr) are as follows[11];

- Half life: Q→ 3.07 hours D→ 1.04 hours
- Cmax (including active metabolites):
  Q→ 3.2 mg/L D→ 7.9 mg/L
- AUC (including active metabolites):
  Q→ 7.2 mg.h/L D→ 10.6 mg.h/L
- Protein binding:
  Q→ 55-78% D→ 11-26%
- Volume of distribution:
  Q→ 1.4-1.6 L/kg D→ 0.6-1.9 L/kg

Clinical Use

The most important indication of Q/D is VRE *faecium* bacteremia. This indication allowed Q/D to be approved under the FDA's accelerated approval regulations that permit the marketing of drugs for use in life-threatening conditions where other options are unavailable. Another FDA indication is complicated skin and skin structure infections caused by *Staphylococcus aureus* (methicillin-susceptible) or *Strepcococcus pyogenes*; this indication is not advocated at Hartford Hospital because other available options are safer and costeffective. However, the efficacy of Q/D against methicillin-resistant *Staphylococcus aureus* (MRSA) renders it a judicious treatment for patients who are intolerant or refractory to vancomycin. For patients who are not able to tolerate vancomycin and are infected from MRSA, minocycline should be considered as a preferable choice before using Q/D.[21-22] It should be stressed that vancomycin remains the agent of choice for MRSA. The potential adverse reactions and high cost of Q/D does not allow it to be used for methicillin-susceptible *Staphylococcus aureus* and streptococcal infections, even though it is one of the FDA indications.

The dosage of Q/D for adults is 7.5mg/kg IV q 8 hours (VRE *faecium*) or 12 hours (complicated skin and skin structure infection caused by *S. aureus* and *S. pyogenes*). For obese patients, lean body weight should be used instead of actual body weight.[23] However, dosage adjustment is not necessary for gender or age.[11] Although the clearance of Q/D and its active metabolites is impaired in subjects with hepatic cirrhosis or with renal dysfunction as described in detail above, dosage adjustment is unnecessary in both groups unless adverse reactions occur. Dosage should be reduced to 5 mg/kg only when a severe adverse reaction occurs at 7.5 mg/kg.[11] The duration of treatment varies depending on the infection type and severity. At least 60 minutes of infusion time is required in order to reduce the possibility of phlebitis.[11]

Adverse Drug Reactions

The major adverse drug reaction profiles are the following[12];

- Phlebitis
  (higher incidence with peripheral administration)
- Arthralgias/myalgias (reversible)
- Elevated liver function tests
  (ie, elevated conjugated bilirubin level, serum transaminase, and alkaline phosphatase)
- Headaches
- Nausea/Vomiting
- Diarrhea
- Skin rash

Nursing and Pharmacy Information

Synercid® is commercially available as a parenteral formulation (500mg vials of freeze-dried powder containing 150mg quinupristin and 350mg of dalfopristin). The cost of Q/D is approximately $350/day at Hartford Hospital. Q/D should be refrigerated between 2-8 °C. It needs to be diluted in at least 250ml of dextrose 5% because it is not compatible with normal saline or heparin. The prepared solution is stable for five hours at room temperature and 54 hours under refrigeration.[11]

Conclusion

Synercid® is a prudent option for serious infections associated with VRE *faecium*. Q/D also provides bactericidal activity against MRSA in patients who are intolerant or refractory to vancomycin and minocycline. However, it can not be emphasized enough that Q/D should only be reserved as a last resort when other options are not available because of its high cost, several significant side effects (phlebitis, hepatotoxicity, arthralgias/myalgias, etc), drug-drug interactions (inhibition of cytochrome P450 3A4 isozyme), requirement of central catheter insertion, and difficulty of handling (refrigeration and incompatibility with saline or heparin). Moreover, Q/D should be used only in cases of VRE infection; thus, VRE colonization should be excluded before using it. In addition, VRE *faecium* must be differentiated from VRE *faecalis*. Therefore, the Pharmacy and Therapeutics (P&T) Committee at Hartford Hospital has approved the use of Q/D only by infectious disease specialists.

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MORBIDITY AND MORTALITY WEEKLY REPORT

Monitoring Hospital-Acquired Infections to Promote Patient Safety—United States, 1990–1999

HOSPITAL-acquired infections are adverse patient events that affect approximately two million persons annually.[1] National Nosocomial Infections Surveillance (NNIS) is a voluntary, hospital-based reporting system established to monitor hospital-acquired infections and to guide the prevention efforts of infection control practitioners (ICPs). The NNIS approach may be a model for future programs aimed at preventing other adverse patient events.[2] This report describes the decrease in infection rates reported in NNIS hospitals during 1990–1999, presents the results of a survey of ICP responsibilities, and discusses the importance of NNIS for monitoring adverse patient events.

NNIS began in 1970 with 62 participating hospitals in 31 states. In 1999,285 hospitals in 42 states participated in NNIS.[1] All NNIS hospitals have ≥100 beds and tend to be larger than other U.S. hospitals (median size: 360 beds *vs* 210 beds); however, both NNIS and non-NNIS hospitals have a similar geographic distribution. The purposes of NNIS are to establish national risk-adjusted benchmarks for hospital-acquired infection rates and for device use ratios[3] by using uniform case definitions and data collection methods and computerized data entry and analysis. To promote the use of standardized data collection and analysis methods, ICPs receive 28 hours of training at CDC and are invited to attend a biennial conference.

Trends in Nosocomial Infection Rates

Patients in intensive care units (ICUs) are at high risk for nosocomial infections. By ICU type, these patients have been monitored using site-specific, risk-adjusted infection rates.[4,5] During 1990–1999, risk-adjusted infection rates decreased for all three body sites (ie, respiratory tract, urinary tract, and bloodstream) monitored in ICUs (Fig. 1).[6] Bloodstream infection rates decreased substantially in medical (nonsurgical) ICUs (44%), coronary ICUs (43%), pediatric ICUs (32%), and surgical ICUs (31%). NNIS uses data from 1997 to 1999 as its benchmark (Table 1). Device use ratios, the proportion of days spent in the ICU in which the patient's treatment included invasive devices, also were calculated. Urinary catheter-associated urinary tract infection (UTI) rates were highest in medical (nonsurgical) ICUs (6.5 UTls per 1,000 days a catheter was used) and lowest in pediatric ICUs (5.6 UTls per 1,000 days a catheter was used). Central line-associated bloodstream infection (BSI) rates were highest in pediatric ICUs (7.7 BSls per 1000 days a central line was used) and lowest in coronary ICUs (4.3 BSls per 1,000 days a central line was used). Ventilator-associated pneumonia (YAP) rates were highest in surgical ICUs (13.0 cases of pneumonia per 1,000 days a ventilator was used) and were lowest in pediatric ICUs (5.0 cases of pneumonia per 1,000 days a ventilator was used). The percentiles (Table 1) represent a measure of the variations in device-associated rates in NNIS ICUs. For example, the 25th percentile for VAP rates in the medical (nonsurgical) ICU was 4.1, (ie, 25% of reporting medical [nonsurgical] ICUs had a VAP rate of 24.1). Device use ratios ranged from 0.22 for ventilators in coronary ICUs to 0.85 for urinary catheters in surgical ICUs.

Survey of Infection Control Practitioners

ICPs are usually registered nurses but also may be microbiologists, epidemiologists, or medical technologists. ICPs collect and interpret data, identify problems, and implement interventions to prevent infections and improve patient safety; hospitals should have at least one full-time ICP for every 250 occupied hospital beds.[1,7,8] In 1999, participating NNIS hospitals were surveyed using a mailed questionnaire to determine the number of ICPs in each hospital and the spectrum of ICP activities. Of 285 NNIS hospitals surveyed, 225 (79%) reported data on ICPs in their facilities; 221 (96%) respondents reported a ratio of at least one ICP to 250 occupied hospital beds (median: one ICP per 115 beds; range: one ICP per 21 beds-one ICP per 382 beds). Although 68% of ICP work hours were devoted to inpatient infection-control activities, including surveillance, ICPs reported other responsibilities, such as noninfection-related quality improvement (6%), occupational health (4%), and administration or clinical duties (12%).

Reported by: Nosocomial Infections Surveillance Activity, Hospital Infections Program, National Center for Infectious Diseases; and an EIS Officer, CDC.

Editorial Note: The Institute of Medicine reports that

Reprinted from the *Morbidity and Mortality Weekly Report,* 3 March 2000; vol. 49, no. 8, Centers for Disease Control (CDC), National Institute for Health (NIH).

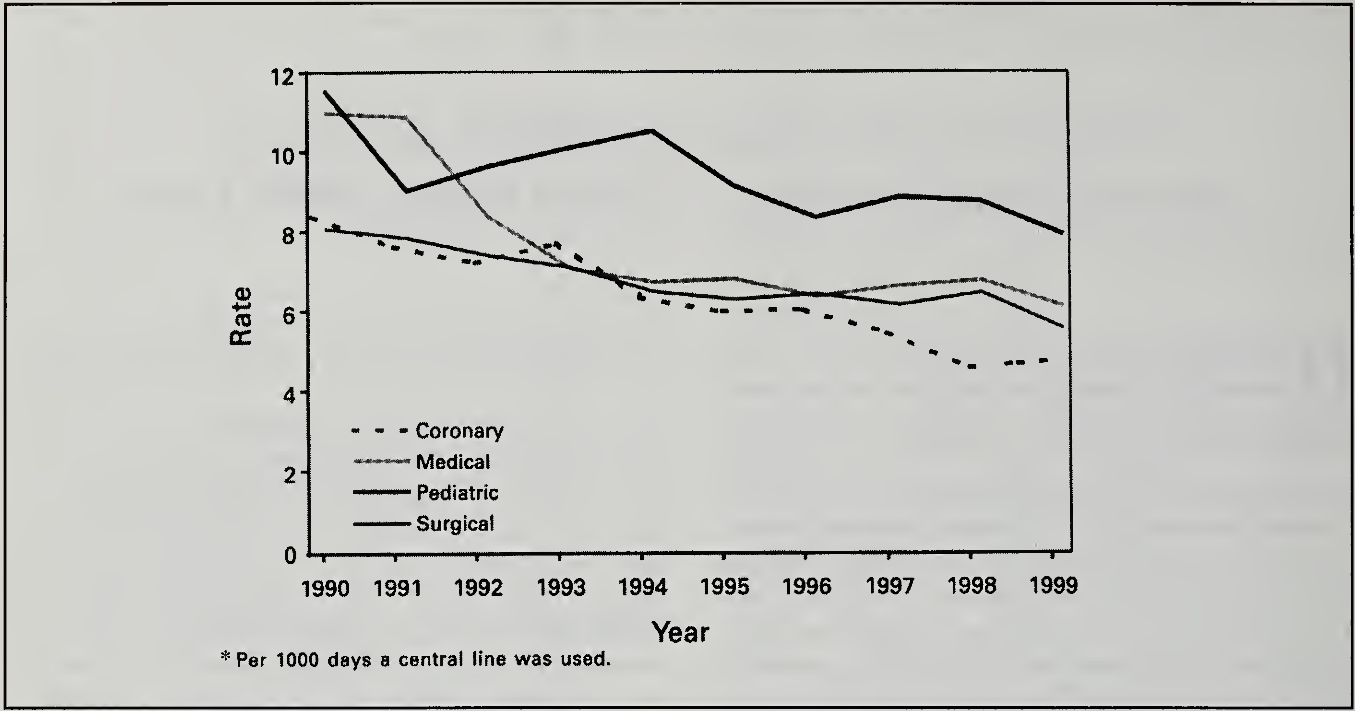

Figure 1.—Trends in bloodstream infection rates*, by intensive care unit type and year—National Nosocomial Infection Surveillance System, United States, 1990–1999.

preventable adverse patient events, including hospital-acquired infections, are responsible for 44,000–98,000 deaths annually at a cost of $17–$29 billion.[2] In 1990, one of the national health objectives for 2000 was to reduce by at least 10% the incidence of surgical wound infections and nosocomial infections in ICU patients in U.S. hospitals (objective 20.5). NNIS data indicate that almost all goals have been achieved or surpassed.[6]

This report demonstrates the value of NNIS as a model to prevent hospital-acquired infections. The elements of NNIS critical for rate reduction included 1) voluntary participation and confidentiality for NNIS hospitals; 2) standard definitions and protocols; 3) targeted, high-risk populations (eg, intensive care and surgical patients); 4) site-specific, risk-adjusted infection rates comparable across institutions; 5) adequate numbers of trained ICPs; 6) data dissemination to health-care providers; and 7) links between monitored rates and prevention efforts.[3,8,9]

The findings in this report are subject to at least three limitations. First, the improvements in NNIS hospitals may reflect other national efforts to prevent infections (eg, new research findings and prevention guidelines). Second, some rate reductions may be attributable to the shift in the U.S. health-care system from hospital-based care to nonhospital settings. Third, most events reported to CDC are obtained from patient record review. More efficient methods that use electronic information could save substantial time, and financial and personnel resources; however, these methods have not been validated for most infections and other adverse health events.[10]

Although reductions in hospital-acquired infections were substantial, the wide range of infection-rate percentiles suggests that a better understanding of this variability is needed. Also, NNIS has not conducted surveillance in nonhospital settings. Efforts are needed in these locations to determine the extent of health-care-related infection rates and where to target prevention efforts. The key to NNIS is having ICPs who use monitoring data to implement prevention activities. Any new system for preventing adverse health events will need to develop professionals at the health-care facility to design and implement appropriate interventions.

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Table 1.—Device-associated infection rates, by type of device and type of intensive care unit (ICU)
—National Nosocomial Infection Surveillance system United States 1997–1999

					Device-associated infection rates					
		Total no. of				Percentiles				
ICU/Type of infection	No. units	days patient in ICU	Device days*	DU†	Mean	10th	25th	50th	75th	90th
Coronary		898,305								
Catheter-associated urinary tract infection§	112		413,686	0.46	6.5	1.0	3.1	5.5	9.8	13.4
Central line-associated bloodstream infection¶	112		257,793	0.29	4.8	0.0	1.7	4.0	6.3	8.6
Ventilator-associated pneumonia**	108		174,688	0.19	9.2	0.3	3.9	7.1	12.2	16.4
Medical (nonsurgical)		1,276,794								
Catheter-associated urinary tract infection	135		914,016	0.72	7.3	1.9	3.6	6.4	8.8	11.6
Central line-associated bloodstream infection	136		651,238	0.51	6.1	1.6	3.6	5.3	7.1	9.9
Ventilator-associated pneumonia	133		619,173	0.48	7.8	1.9	4.1	6.8	9.9	14.8
Pediatric		658,404								
Catheter-associated urinary tract infection	70		212,765	0.32	5.1	0.0	2.0	4.8	7.0	9.8
Central line-associated bloodstream infection	73		297,494	0.45	7.9	1.0	4.1	6.9	9.3	12.6
Ventilator-associated pneumonia	73		304,255	0.46	5.4	0.0	1.2	4.0	7.6	10.9
Surgical		1,451,793								
Catheter-associated urinary tract infection	157		1,215,152	0.84	5.5	1.2	3.3	4.6	7.6	9.4
Central line-associated bloodstream infection	157		974,157	0.67	5.6	1.3	2.6	5.1	7.0	9.2
Ventilator-associated pneumonia	157		678,520	0.47	14.4	5.5	8.4	12.5	16.0	24.0

*Number of days a urinary catheter, central line, or ventilator was used by all patients.
†Device utilization ratio (device days divided by total number of days patient was in ICU).
§Number of urinary catheter-associated urinary tract infections divided by number of days a urinary catheter was used multiplied by 1,000.
¶Number of central line-associated bloodstream infections divided by number of days a central line was used multiplied by 1,000.
**Number of ventilator-associated cases of pneumonia divided by number of days a mechanical ventilator was used multiplied by 1,000.

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Tobacco Use Among Middle and High School Students—United States, 1999

THE prevalence of cigarette smoking nationwide among high school students increased during the 1990s[1]; more than 80% of current adult tobacco users started smoking cigarettes before age 18 years.[2] To determine the prevalence of cigarette, smokeless tobacco (ie, chewing tobacco and snuff), cigar, pipe, bidi, and kretek use among middle school and high school students nationwide, the American Legacy Foundation, in collaboration with the CDC Foundation, conducted the National Youth Tobacco Survey (NYTS) during the fall of 1999. This report summarizes data from the NYTS on current use of tobacco products, which indicate that 12.8% of middle school students and 34.8% of high school students use any type of tobacco; that the low prevalence of current cigarette smoking observed among black high school students throughout the 1990s is not found among middle school students[1]; and that the percentages of high school students who currently use bidis and kreteks (two new forms of tobacco in the United States) are almost as high as the proportion who use smokeless tobacco.

The school-based 1999 NYTS employed a three-stage cluster sample designed to produce a nationally representative sample of students in grades six to 12. The first-stage sampling frame contained 1,306 primary sampling units (PSUs), each comprising a large county or a group of smaller adjacent counties. From the 1,306 PSUs, 66 were selected from 16 strata formed on the basis of the degree of urbanization and the relative percentage of black and Hispanic students in the PSU. PSUs were selected with probability proportional to weighted school enrollment. At the second sampling stage, 145 schools from the 66 PSUs were selected with probability proportional to weighted school enrollment. To ensure separate analysis of black and Hispanic students, schools with substantial numbers of black and Hispanic students were sampled at higher rates than all other schools through a weighted measure of size. The third stage of sampling consisted of randomly selecting approximately five intact classes of a required subject (eg, English or social studies) across grades six to 12 from each participating school. All students in the selected classes were eligible to participate. A weighting factor was applied to each student record to adjust for nonresponse and for' the varying probabilities of selection, including those resulting from the oversampling of black and Hispanic students. Numbers of students in racial/ethnic groups other than black, white, and Hispanic were too small for meaningful analysis. The weights were scaled so that the weighted count of students equaled the total sample size and the weighted proportions of students in each grade matched national population proportions. For the 1999 NYTS, 15,058 students in 131 schools completed questionnaires. The school response rate was 90%, and the student response rate was 93%, resulting in an overall response rate of 84%.

For the NYTS, students completed an anonymous, self-administered questionnaire that included questions about tobacco use, exposure to environmental tobacco smoke, minors' ability to purchase or otherwise obtain tobacco products, knowledge and attitudes about tobacco, and familiarity with pro- and anti-tobacco media messages. SUDAAN was used to compute 95% confidence intervals, which were used to determine differences between subgroups at the $P<0.05$ level. Differences between prevalence estimates were considered statistically significant if the 95% confidence intervals did not overlap. Current use of bidis, cigarettes, cigars, kreteks, pipes, and smokeless tobacco was defined as use on one or more of the 30 days preceding the survey. Any current tobacco use was defined as using any of these products on one or more of the 30 days preceding the survey.

Middle School Students

Among middle school (grades six to eight) students, the overall prevalence of any current tobacco use was 12.8% (Table 1). Cigarettes (9.2%) were the most prevalent type

Reprinted from the *Morbidity and Mortality Weekly Report,* 28 January 2000; vol. 49, no. 3, Centers for Disease Control (CDC), National Institute for Health (NIH).

of tobacco used, followed by cigars (6.1%). Cigarette smoking rates were similar among boys and girls and among racial/ethnic groups. Boys were significantly more likely than girls to use smokeless tobacco (4.2% and 1.3%, respectively), smoke cigars (7.8% and 4.4%, respectively), and smoke tobacco in a pipe (3.5% and 1.4%, respectively). Black students were significantly more likely than white students to smoke cigars (8.8% and 4.9%, respectively).

High School Students

Among high school (grades nine to 12) students, the overall prevalence of any current tobacco use was 34.8%. Cigarettes (28.4%) were the most prevalent type of tobacco used, followed by cigars (15.3%). Boys were significantly more likely than girls to use smokeless tobacco (11.6% and 1.5%, respectively), smoke cigars (20.3% and 10.2%, respectively), smoke tobacco in a pipe (4.2% and 1.4%, respectively), and smoke bidis (6.1% and 3.8%, respectively). White and Hispanic students were significantly more likely than black students to smoke cigarettes (32.8%, 25.8%, and 15.8%, respectively). White students were significantly more likely than black and Hispanic students to use smokeless tobacco (8.7%, 2.4%, and 3.6%, respectively).

Reported by: C. Healton, Dr.PH., P. Messeri, Ph.D., J. Reynolds, M.P.H., C. Wolfe, The American Legacy Foundation, Washington, DC. C. Stokes, MEd, CDC Foundation, Atlanta, Georgia. J. Ross, M.S., K. Flint, M.A., W. Robb, M.S., Macro International Inc., Calverton, Maryland. M. Farrelly, Ph.D., Research Triangle Institute, Research Triangle Park, North Carolina. Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: This report is the first to measure the prevalence of current tobacco use among a nationally representative sample of middle school students and the first to report the prevalence of current bidi and kretek use among a nationally representative sample of middle and high school students. Although previous national surveys have shown that cigarette smoking rates among black high school students have been increasing, black students still were smoking at much lower rates than other high school students.[1,3,4] However, the findings in this report indicate that current cigarette smoking prevalence among middle school black students was similar to rates among white and Hispanic students and that current cigar use prevalence among middle school black students was significantly higher than among white students. Future surveys

Table 1.—Percentage of students in middle school (grades 6–8) and high school [grades 9–12) currently* using tobacco products, by type of tobacco product, sex, and race/ethnicity—United States, National Youth Tobacco Survey, 1999

	Sex				Race/Ethnicity							
Type of tobacco	**Male**		**Female**		**White**		**Black**		**Hispanic**		**Total**	
product	**%**	**(95%CI†)**	**%**	**(95%CI)**	**%**	**(95%CI)**	**%**	**(95%CI)**	**%**	**(95%oCI)**	**%**	**(95%CI)**
Any use§												
Middle school	14.2	(±2.2)	11.3	(±2.2)	11.6	(±2.3)	14.4	(±2.7)	15.2	(±5.2)	**12.8**	**(±2.0)**
High school	38.1	(±3.2)	31.4	(±3.1)	39.4	(±3.2)	24.0	(±4.2)	30.7	(±4.4)	**34.8**	**(±2.7)**
Cigarette												
Middle school	9.6	(±1.7)	8.8	(±1.7)	8.8	(±2.0)	9.0	(±1.8)	11.0	(±4.1)	**9.2**	**(±1.6)**
Highschool	28.7	(±2.8)	28.2	(±3.3)	32.8	(±3.1)	15.8	(±3.8)	25.8	(±4.7)	**28.4**	**(±2.7)**
Smokeless												
Middle school	4.2	(±1.3)	1.3	(±0.5)	3.0	(±1.1)	1.9	(±0.9)	2.2	(±0.9)	**2.7**	**(±0.7)**
Highschool	11.6	(±2.8)	1.5	(±0.6)	8.7	(±2.1)	2.4	(±1.3)	3.6	(±1.6)	**6.6**	**(±1.6)**
Cigar												
Middle school	7.8	(±1.3)	4.4	(±1.3)	4.9	(±1.0)	8.8	(±2.3)	7.6	(±2.9)	**6.1**	**(±1.1)**
High school	20.3	(±1.9)	10.2	(±1.6)	16.0	(±1.6)	14.8	(±3.5)	13.4	(±2.9)	**15.3**	**(±1.4)**
Pipe												
Middle school	3.5	(±0.8)	1.4	(±0.6)	2.0	(±0.6)	2.0	(±0.9)	3.8	(±1.7)	**2.4**	**(±0.5)**
High school	4.2	(±0.9)	1.4	(±0.5)	2.6	(±0.6)	1.8	(±0.9)	3.8	(±1.4)	**2.8**	**(±0.5)**
Bidi												
Middle school	3.1	(±0.8)	1.8	(±0.6)	1.8	(±0.5)	2.8	(±1.3)	3.5	(±1.6)	**2.4**	**(±0.6)**
High school	6.1	(±1.0)	3.8	(±1.0)	4.4	(±0.9)	5.8	(±2.1)	5.6	(±2.1)	**5.0**	**(±0.8)**
Kretek												
Middle school	2.2	(±0.6)	1.7	(±0.7)	1.7	(±0.7)	1.7	(±0.8)	2.1	(±0.6)	**1.9**	**(±0.5)**
High school	6.2	(±1.1)	5.3	(±1.5)	6.5	(±1.5)	2.8	(±1.5)	5.5	(±1.9)	**5.8**	**(±1.2)**

*Used tobacco on one or more of the 30 days preceding the survey.

†Confidence interval.

§Use of cigarettes, smokeless tobacco, cigars, pipes, bidis, or kreteks.

should evaluate whether the rate of increase in smoking rates among black students has accelerated and whether the difference in smoking rates between black and white high school students are disappearing. In addition, more research is needed to determine whether black youth are finding smoking appealing and socially acceptable.

Current use of novel tobacco products, such as bidis and kreteks, is an emerging public health problem among U.S. youth.[5] Cigarettes remain the most widely used tobacco product by youth; however, recent trends underscore the importance of monitoring the rates at which youth adopt other tobacco products. The social and cultural factors related to differing patterns of tobacco product use across sex and racial/ethnic groups require additional study.

The 1999 NYTS estimates for high school students will be compared with those of the Monitoring The Future (MTF) study and the Youth Risk Behavior Survey (YRBS), the other national school-based surveys. Comparison of NYTS estimates with those of other national surveys must be interpreted with caution for several reasons. First, YRBS and MTF were conducted during spring 1999, and NYTS was conducted during September–October 1999, a different academic year. Within each grade, the fall school population is approximately six months younger than the spring school population.

This difference can be expected to lead to higher estimates of ever smoking in the spring surveys and may lead to higher estimates of current smoking. Second, the tobacco industry increased the wholesale price of tobacco products during 1999, but also provided substantial price discounts during the same period, making determination of the precise effect of retail prices on smoking rates difficult. However, preliminary per capita consumption estimates from the U.S. Department of Agriculture suggest cigarette consumption has decreased in 1999, suggesting that the prevalence among youth also may have decreased.[6] Third, the NYTS is a single-topic survey (tobacco), and MTF and YRBS are multi-topic surveys. The effect of the number of topics surveyed on the resulting estimates is unknown. Finally, NYTS had a 90% school response rate, a higher reported school response rate than YRBS and MTF. Some schools that participated in the NYTS may not participate in YRBS or MTF.

The findings in this report are subject to at least two limitations. First, these data apply only to youth who attended middle or high school and are not representative of all persons in this age group. Few persons aged <16 years do not attend school and, in 1997, only 4% of 16-year-olds and 6% of 17-year-olds who had not completed high school were not enrolled in a high school program.[7] The dropout rate for young adults aged 16 to 24 years varies greatly by race/ethnicity (7.6%, white; 13.4%, black; and 25.3%, Hispanic).[7] Second, "any current tobacco use" might be underestimated in this report because it does not include a measure of "roll-your-own" tobacco smoking.

To evaluate the potential impact of the expanding levels of tobacco prevention efforts nationwide and in the individual states, surveillance of trends in tobacco use among youth must be continued and expanded. YRBS has provided national and state-specific surveillance of tobacco use among high school students since 1991.[8] The NYTS and state-specific youth tobacco surveys are extending this surveillance effort to middle school students and across a wider range of evaluation variables, including knowledge and attitudes about tobacco, exposure to environmental tobacco smoke, familiarity with pro-smoking and antismoking media messages, and exposure to tobacco-use prevention curriculum in schools. CDC has prepared "Best Practices" guidelines to help states determine funding priorities and to plan and carry out effective comprehensive tobacco-use prevention and control programs.[9] If current patterns of smoking behavior persist, an estimated 5 million U.S. persons who were aged <18 years in 1995 could die prematurely from smoking-related illnesses.[10] Implementation of the "Best Practices" guidelines, along with nationwide prevention efforts, enforcement of the proposed Food and Drug Administration rules, increases in the excise tax on tobacco products, and increased availability of smoking cessation treatment options, could dramatically reduce these projected deaths.

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Drugs for Asthma

ASTHMA is a chronic inflammatory disorder of the airways; inflammation caused by allergens, viral respiratory infections or other stimuli leads to bronchial hyperresponsiveness and obstruction of airflow. Anti-inflammatory drugs, particularly inhaled corticosteroids, are central to its management. Treatment of asthma in the hospital or emergency department is not addressed here.

INHALATION DELIVERY DEVICES—Delivery devices, drug formulation and patient technique determine the doses of inhaled drugs that reach the lung (Kelly HW: *Respir Care Clin N Am*, 1999; 5:537, December; Wilson AM, et al: *Lancet* 1999; 353:2128). Inhaled drugs for asthma have been available in the U.S.A. mainly in pressurized metered-dose inhalers, which require a propellant. The chlorofluorocarbon (CFC) propellants in these formulations are being changed for environmental reasons, usually to hydrofluoroalkanes (HFA), which have a smaller particle size and may deliver more of the drug to the lower airways. Dry-powder inhalers, which are activated by inspiration, do not require a propellant, and patients who have difficulty with hand-breath coordination find them easier to use. Some young children and elderly patients may be unable to activate a dry-powder inhaler and may need to use a metered-dose inhaler with a spacer device or a nebulizer.

BETA$_2$ AGONISTS—Inhaled short-acting beta$_2$-adrenergic agonists are the most effective drugs available for treatment of acute bronchospasm and for prevention of exercise-induced asthma. Regular use of short-acting beta$_2$ agonists offers no advantage over PRN use. Levalbuterol, the it-isomer of racemic albuterol, offers no clinically significant advantage over racemic albuterol (*Medical Letter* 1999; 41:51; Asmus MJ, Hendeles L: *Pharmacotherapy* 2000; 20:123).

Salmeterol, a long-acting beta$_2$ agonist, has a relatively slow onset of action and a prolonged effect; it is not recommended for treatment of acute bronchospasm. Patients taking salmeterol regularly should use a short-acting beta$_2$ agonist PRN to control acute symptoms. Twice-daily inhalation of salmeterol has been effective for maintenance treatment in combination with inhaled corticosteroids and may be especially useful in patients with nocturnal symptoms. In moderate asthma, addition of salmeterol to inhaled corticosteroids may be more effective than raising the dose of the corticosteroid (Condemi JJ, et al: *Ann Allergy Asthma Immunol* 1999; 82:383; Pearlman DS, et al: *Ann Allergy Asthma Immunol* 1999; 82:257; van Noord JA, et al: *Thorax* 1999; 54:207). A product that combines both salmeterol and the corticosteroid fluticasone in a dry powder formulation *(Advair Diskus*—Glaxo Wellcome) is available in Canada and is expected to be approved soon by the FDA (Shapiro G, et al: *Am J Respir Crit Care Med* 2000; 161:527; Chapman KR, et al: *Can Respir J* 1999; 6:45). Another long-acting beta$_2$ agonist, formeterol *(Foradil,* and others), is available in Canada and Europe.

Oral beta$_2$ agonists are less effective, produce more adverse effects and have a slower onset of action than the same drugs given by inhalation. Extended-release products given q12h may be beneficial in adults unable to use a metered-dose inhaler correctly and for nocturnal asthma. Oral syrup formulations may be useful for some young children and elderly patients with infrequent mild symptoms who cannot use an inhaler and spacer device.

Adverse Effects—Albuterol, bitolterol, pirbuterol, terbutaline and salmeterol are relatively beta$_2$-selective in their action and produce more bronchodilation with fewer cardiovascular effects than older adrenergic drugs such as epinephrine, isoproterenol or metaproterenol. Nevertheless, tachycardia, palpitations, tremor and paradoxical bronchospasm can occur, and high doses can cause hypokalemia. Overuse of inhaled beta$_2$ agonists has been associated with an increase in mortality, but probably reflected worsening of the disease. Beta-adrenergic blockers such as propranolol *(Inderal,* and others) taken concurrently decrease the bronchodilating effect of beta-adrenergic agonists.

INHALED CORTICOSTEROIDS—Regular use of an inhaled corticosteroid can suppress inflammation, decrease bronchial hyperresponsiveness and decrease symptoms in patients with persistent asthma. Inhaled corticosteroids are recommended for treatment of patients with mild or moderate persistent asthma as well as those with severe disease. The optimum dosage of inhaled corticosteroids, the lowest one that controls symptoms, may decrease or increase over time.

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Cost of Some Drugs For Asthma

Drug	Formulation	Adult Dosage	Pediatric Dosage	Cost[2]
Inhaled beta$_2$-adrenergic agonists, short-acting				
Albuterol[3]—average generic price	metered-dose inhaler	2 puffs q4–6h	2 puffs q4–6h	$20.49
Proventil (Schering)	(90 μg/puff)	PRN	PRN	31.56
Proventil-HFA (non-CFC propellant)				29.41
Ventolin (Glaxo Wellcome)				32.12
Ventolin *Rotacaps*	dry-powder inhaler	1–2 capsules	1–2 capsules	37.72
	(200 μg/inhalation)	q4–6h PRN	q4–6h PRN	
Albuterol sulfate—average generic price	nebulized	2.5 mg q4–6h	0.1-0.15mg/kg	
single-dose vials		PRN	q4–6h PRN	122.00
multi-dose vials				32.53
Proventil (Schering) single-dose vials				181.00
multi-dose vials				49.70
Ventolin Nebules (Glaxo Wellcome)				
single-dose vials				173.00
Ventolin multi-dose vials				51.80
Levalbuterol—*Xopenex* (Sepracor)	nebulized	0.63 mg q6–8h	not approved	198.00
		PRN		
Bitolterol mesylate[3]—*Tornalate* (Dura)	metered-dose inhaler	2 puffs q4–6h	2 puffs q4–6h	30.57
	(370 μg/puff)	PRN	PRN	
	nebulized (2 mg/ml)	1.5–3.5 mg bid-qid PRN	1.5 mg bid-qid PRN	39.18
Pirbuterol—*Maxair* (3M)	metered-dose inhaler	2 puffs q4–6h	2 puffs q4–6h	28.64
	(200 mg/puff)	PRN	PRN	
Maxair Autohaler	breath-actuated	2 puffs q4–6h	2 puffs q4–6h	28.38
	metered-dose inhaler	PRN	PRN	
Inhaled beta$_2$-adrenergic agonist, long-acting				
Salmeterol—*Serevent* (Glaxo Wellcome)	metered-dose inhaler	2 puffs q12h	1–2 puffs q12h	66.84
	(21 μg/puff)			
Serevent Diskus	dry-powder inhaler	1 inhalation	1 inhalation	69.78
	(50 μg/inhalation)	q12h	q12h	
Oral beta$_2$-adrenergic agonists, extended release				
Albutero sulfate—*Proventil Repetabs*	extended-release tablets	4-8 mg q12h	4 mg q12h	46.57
(Schering)	(4 mg or 8 mg tablets)			
Volmax (Muro)				49.84
Inhaled Corticosteroids				
Beclomethasone dipropionate	metered-dose inhaler			
Beclovent (Glaxo Wellcome)	(42 μg/puff)	4–8 puffs bid	2–4 puffs bid	53.93
Vanceril (Schering)				50.10
Vanceril Double-Strength (Schering)	(84 μg/puff)	2–4 puffs bid	1–2 puffs bid	53.33
Budesonide				
Pulmicort Turbuhaler (Astra Zeneca)	dry-powder inhaler	1–2 inhalations	1–2 inhalations	35.73
	(200 μg/inhalation)	bid	bid	
Flunisolide—*Aerobid* (Forest)	metered-dose inhaler	2–4 puffs bid	2 puffs bid	75.86
	(250 μg/puff)			
Fluticasone propionate—*Flovent*	metered-dose inhaler	2–4 puffs bid	1–2 puffs bid	46.94[4]
(Glaxo Wellcome)	(44, 110 or 220 μg/puff)	(44 mg/puff)	(44 μg/puff)	
Flovent Rotadisk	dry-powder inhaler	1 inhalation bid	1 inhalation bid	49.30[4]
	(50, 100 or 250 μg/inhalation)	(100 mg/inhalation)	(50 μg/inhalation)	
Triamcinolone acetonide	metered-dose inhaler	2 puffs tid-qid	1–2 puffs tid-qid	
Azmacort (Aventis)	(100 μg/puff)	or 4 puffs bid	or 2–4 puffs bid	39.89

(continued on next page)

Cost of Some Drugs For Asthma

Drug	Formulation	Adult Dosage	Pediatric Dosage	Cost[2]
Leukotriene Modifiers				
Montelukast[5]—*Singulair* (Merck)	tablets	10 mg once/day	5 mg once/day	71.17
Zafirlukast[5]—*Accolate* (Astra Zeneca)	tablets	20 mg bid	10 mg bid	62.16
Zileuton—*Zyllo* (Abbott)	tablets	600 mg qid	Not approved	90.90
Cromolyn sodium				
Intal (Aventis)	metered-dose inhaler (800μg/puff)	2–4 puffs tid-qid	2–4 puffs tid-qid	70.16
Nedocromil sodium				
Tilade (Aventis)	metered-dose inhaler (1.75 μg/puff)	2–4 puffs bid-qid	2–4 puffs bid or 2 puffs qid	45.16
Theophylline—average generic price	extended-release capsules or tablets[6]	300–600 mg/day	10 mg/kg/day[7]	6.83
Slo-Bid Gyrocaps (Aventis)				16.78
Theo-Dur (Key)		300–600 mg/day		12.08
Unidur (Key)		400–600 mg/day		33.10

1. Less than 40 kg.
2. Cost of short-acting beta-adrenergic drugs is based on the cost of 100 doses. Cost of other drugs is based on 30 days' treatment with the lowest recommended adult dosage, according to wholesale price (AWP) listings in *Drug Topics Red Book* February 2000 *Update* and *First DataBank PriceAlert,* February 15, 2000.
3. Nebulized solutions may be more convenient for very young, very old and other patients unable to use pressurized aerosols, and higher drug doses can be used. More time is required to administer the drug, however, and the device is usually not portable.
4. For the metered-dose inhaler, cost is based on the 44 μg/puff dose. For the dry-powder inhaler, cost is based on the 100 μg/inhalation preparation.
5. Montelukast is taken once daily in the evening, with or without food. Zafirlukast is taken one hour before or two hours after a meal.
6. Extended-release formulations may not be interchangeable.
7. Starting dose. Usual maximum is 16 mg/kg/day in children more than one year old and in infants 5 mg/kg/day + 0.2 (age in weeks).

Adverse Effects—Recommended doses of inhaled corticosteroids have generally been free of serious toxicity. Dose-dependent slowing of linear growth may occur within six to 12 weeks in some children and adolescents; the effect, if any, on final adult height is uncertain (Puruker M: *J Pediatr* 1999; 135:264; Efthimiou J, Barnes PJ: *Eur Respir J* 1998; 11:1167). Suppression of the hypothalamic-pituitary-adrenal axis and dermal thinning can occur with high doses. Decreased bone density, glaucoma, and posterior subcapsular cataract formation have been reported (Garbe E, et al: *JAMA* 1998; 280:539; Cummings RG, Mitchell P: *Drug Safety* 1999; 20:77; Mitchell P, et al: *Ophthalmology* 1999; 106:2301). Churg-Strauss vasculitis has been reported rarely in association with a reduction in the dosage of inhaled and oral corticosteroids. Dysphonia and oral candidiasis can occur due to local deposition of the drug. The use of a spacer device and rinsing the mouth after inhalation decreases the incidence of candidiasis.

LEUKOTRIENE MODIFIERS—Cysteinyl leukotrienes are products of arachidonic acid metabolism that increase migration of eosinophils, production of mucus and edema of the airway wall, and cause bronchoconstriction. Montelukast and zafirlukast are leukotriene receptor antagonists. Zileuton inhibits synthesis of leukotrienes.

Montelukast *(Singulair)*—In placebo-controlled clinical trials, montelukast has been modestly effective for maintenance treatment of adults and children with intermittent or persistent asthma (*Medical Letter* 1998; 40:71). It is taken once daily in the evening, with or without food. As monotherapy it is less effective than inhaled corticosteroids, but addition of montelukast may permit a reduction in corticosteroid dosage (Malmstrom K, et al: *Ann Intern Med* 1999; 130:487; Löfdahl C-G, et al: *BMJ* 1999; 319:87). Montelukast added to oral or inhaled corticosteroids can improve symptoms in patients with aspirin-intolerant or chronic asthma (Laviolette M, et al: *Am J Respir Crit Care Med* 1999; 160:1862). Churg-Strauss vasculitis has been reported with use of montelukast, but could have been a consequence of corticosteroid withdrawal rather than an effect of the leukotriene modifier (Wechsler ME, et al: *Drug Saf* 1999; 21:241, October).

Zafirlukast *(Accolate)*—Zafirlukast has been modestly effective as monotherapy for maintenance treatment of patients with mild to moderate asthma (*Medical Letter*, 1996; 38:111; Grossman J, et al: *Ann Allergy Asthma Immunol* 1999; 82:361). It is less effective than inhaled corticosteroids (Busse JB, et al: *Am J Respir Crit Care Med* 1999; 159:A628). Taking zafirlukast with food markedly decreases its bioavailability; the manufacturer recommends taking it twice daily one hour before or two hours after a meal. In a single case report, concurrent use of zafirlukast was associated with toxic serum concentrations of theophylline (Katial RK, et al: *Arch Intern Med* 1998; 158:1713). Zafirlukast is metabolized by cytochrome P450 2C9. Theophylline given concurrently can decrease its effect. Zafirlukast increases serum concentrations of oral anticoagulants and may cause bleeding (Vargo DL, et al: *J Clin Pharmacol* 1997; 37:858; Morkunas A, Graeme K: *J Toxicol Clin Toxicol* 1997; 35:501). Infrequent adverse effects include mild headache, gastrointestinal disturbances, and increased serum aminotransferase activity. Drug-induced lupus has been reported in one patient (Finkel TH, et al: *J Allergy Clin Immunol* 1999; 103:533). Churg-Strauss vasculitis has been reported with use of zafirlukast, but cause and effect have not been established (Green RL, Vayonis AG: *Lancet* 1999; 353:725; Wechsler M, Drazen JM: *Lancet* 1999; 353:1970).

Zileuton *(Zyflo)*—Zileuton has been effective for maintenance treatment of asthma, but it is taken four times a day and patients must be monitored for hepatic toxicity (*Medical Letter* 1997; 39:18). One direct comparison with theophylline suggested that zileuton is equally effective in treating persistent asthma, but with a slower onset of action (Schwartz HJ, et al: *Arch Intern Med* 1998; 158:141). Controlled comparisons with inhaled corticosteroids are not available. Zileuton, when added to a regimen of medium to high doses of inhaled or oral corticosteroids, led to greater control of asthma and nasal symptoms in patients with aspirin-induced asthma (Dahlen B, et al: Am *J Respir Crit Care Med* 1998; 157:1187). Zileuton is metabolized by the cytochrome P450 1A2, 2C9 and 3A4 isozymes. Given concurrently, it can decrease clearance and markedly increase serum concentrations of theophylline, and can also cause clinically significant increases in serum concentrations of warfarin *(Coumadin,* and others) and propranolol.

CROMOLYN SODIUM ***(Intal)*** **AND NEDOCROMIL SODIUM** ***(Tirade)***—Cromolyn sodium, an inhibitor of mast cell degranulation, can decrease airway hyperresponsiveness in some patients with asthma. The drug has no bronchodilating activity and is useful only for prophylaxis. A four-week trial may be necessary to determine whether it is effective. Pretreatment with cromolyn 15 to 30 minutes prior to exercise or exposure to allergens or cold air can prevent or diminish bronchospasm, particularly in children, but less effectively than inhalation of a $beta_2$ agonist. Cromolyn has virtually no systemic toxicity. Nedocromil is a chemically unrelated drug with similar effects (*Medical Letter* 1993; 35:62). Some patients have complained about its taste. Both cromolyn and nedocromil are much less effective than inhaled corticosteroids.

THEOPHYLLINE—Oral theophylline has a slower onset of action than inhaled $beta_2$ agonists and has limited usefulness for treatment of acute symptoms. It can, however, reduce the frequency and severity of symptoms, especially in nocturnal asthma, and can decrease inhaled corticosteroid requirements (Evans DJ, et al: *N Engl J Med* 1997; 337:1412). Since theophylline absorption and clearance vary, and the drug has a narrow therapeutic index, measurement of serum concentrations are needed to determine optimal dosage.

Adverse Effects—When theophylline is used alone, serum concentrations between 5 and 15 μg/mL are most likely to produce therapeutic results with minimal adverse effects. At higher serum concentrations, nausea, nervousness, headache, and insomnia may occur. Vomiting, hypokalemia, hyperglycemia, tachycardia, cardiac arrhythmias, tremor, neuromuscular irritability, and seizures can also occur. Many other drugs used concomitantly can cause either an increase or decrease in serum theophylline concentrations *(The Medical Letter Handbook of Adverse Drug Interactions,* 2000, page 386).

IPRATROPIUM—Ipratropium bromide, an inhaled anticholinergic agent available both alone *(Atrovent)* and in combination with albuterol *(Combivent),* acts as a bronchodilator and is used to relieve bronchospasm in chronic bronchitis and chronic obstructive pulmonary disease (COPD). It is not FDA-approved for use in asthma. Ipratropium has a slower onset of action than short-acting $beta_2$ agonists, but can be used in patients unable to tolerate $beta_2$ agonists and in those who have both asthma and COPD. Dry mouth, pharyngeal irritation, urinary retention, and increases in intraocular pressure may occur; the drug should be used with caution in patients with glaucoma and in those with prostatic hypertrophy or bladder neck obstruction.

ORAL CORTICOSTEROIDS—Oral corticosteroids are the most effective drugs available for acute exacerbations of asthma unresponsive to bronchodilators. Even when an acute exacerbation responds to bronchodilators, many clinicians treat recovering patients for up to 10 days with oral corticosteroids, which decrease symptoms and may prevent an early relapse (Chapman K, et al: *N Engl J Med* 1991; 324:788). Chronic daily use of oral corticosteroids can cause glucose intolerance, weight gain, increased blood pressure, bone demineralization leading to osteoporosis, cataracts, immunosuppression, and decreased linear growth in children. Alternate-day use of corticosteroids can decrease the incidence of adverse effects, but not of osteoporosis, the most common major complication of long-term use.

EXERCISE-INDUCED BRONCHOSPASM—Most patients with exercise-induced bronchospasm inhale a short-acting beta_2 agonist before exercise. The long-acting beta_2 agonist salmeterol may offer protection for unanticipated or prolonged physical activity, but regular long-term use may decrease the duration of the bronchoprotective effect (FER Simons, Pediatrics, 99:655, 1997; JA Nelson et al, N Engl J Med, 339:141, 1998). In some patients, cromolyn or nedocromil taken before exercise can be effective against exercise-induced bronchospasm. Leukotriene inhibitors taken regularly may decrease exercise-induced bronchospasm, but many patients show little or no response to these drugs. The U.S. Olympic Committee allows athletes to use cromolyn, nedocromil, ipratropium, theophylline, and all the leukotriene modifiers without prior approval; the inhaled beta_2 agonists (albuterol, terbutaline, salmeterol) and most inhaled corticosteroids require prior approval. The National Collegiate Athletic Association (NCAA) permits most asthma medications except for oral beta_2 agonists.

ASTHMA DURING PREGNANCY AND LACTATION—Clinical experience suggests that many of the drugs used to treat asthma can be used safely during pregnancy and lactation (Luskin AT: *J Allergy Clin Immunol* 1999; 103:S350; Schatz M: *Lancet* 1999; 353:1202). Among the inhaled corticosteroids, the most experience has been with beclomethasone (Källén B, et al: *Obstet Gynecol* 1999; 93:392). Metaproterenol, terbutaline, albuterol, salmeterol, theophylline, cromolyn, nedocromil, and ipratropium also appear to be safe during pregnancy. Based on animal studies, montelukast and zafirlukast may be safe to use, but zileuton should be avoided. Taking theophylline during lactation may produce irritability in the newborn. Oral corticosteroids may decrease birthweight and increase the risk of pre-eclampsia, and possibly increase the risk of oral cleft defects (Rodriguez-Pinilla E, Martinez-Frias ML: *Teratology* 1998; 58:2); in severe asthma, however, their benefits outweigh the risks.

CHOICE OF DRUGS—Both children and adults with infrequent mild symptoms of asthma may require only intermittent use, as needed, of a short-acting inhaled beta_2 adrenergic agonist. Patients with exercise-induced asthma can use a beta_2 agonist before exercise. Overuse of inhaled short-acting beta_2 agonists (daily use according to some clinicians, or more than twice a week according to National Institutes of Health guidelines) indicates that an inhaled corticosteroid should be added to the treatment regimen or, if one is already being used, that the dosage should be increased. The role of leukotriene modifiers as possible alternatives to inhaled corticosteroids in mild asthma remains to be established.

Maintenance treatment with a long-acting inhaled beta_2 agonist such as salmeterol in addition to an inhaled corticosteroid can control symptoms in patients with moderate or persistent asthma. Oral theophylline can also suppress the symptoms of asthma, particularly nocturnal symptoms, but requires careful titration of dosage and monitoring of serum concentrations. A five- to 10-day course of oral corticosteroids can control severe acute asthma symptoms unresponsive to other drugs.

Drugs for Parasitic Infections has recently been completely revised and updated. Although this article has been a biannual feature of The Medical Letter for many years, it will not be published as a separate issue in 2000. It will be included in the 2000 edition of *The Medical Letter Handbook of Antimicrobial Therapy* and is now available to both subscribers and is now available to both subscribers and nonsubscribers on our website at www.medletter.com in the public reading room.

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Neil J. Grey, M.D.
Medical Director

Michele R. Norbeck
Director

Commentaries

Man for All Seasons, Measure of All Things

Dr. Massey began his new millennium essay "Brave New World That Has Such Creatures in It" (*Conn Med* 2000; 64:57–8) with the curious remark: "writing 2000 at the end of a date continues to send a slight chill...."[1] Another thousand years! We measure time, only natural for mortals, the chilling reminder of our mortality. The great Sophist Protagoras believed human life was too short to understand the gods. He gave agnosticism a rational basis. The gods cannot be known. Their power over our destinies is obscure. Humans have power, power we can learn to exert. Protagoras was a pragmatic humanist, the first of the great Greeks to focus exclusively on man. "Man is the measure of all things" is his most famous phrase.[2] In his book, *Antilogic,* Protagoras made the weaker argument the stronger. Words, like drugs, bewitch the mind. For large fees he taught young men the arts of persuasion, power and public speaking. In *Clouds,* Aristophanes ridiculed Sophists for divorcing rhetoric from ethics. The skilled speaker makes a good or evil case at will.[3] In Plato's dialogue, *Protagoras*, the oratory of the great Sophist held Socrates "spellbound." Man measures all things, moons and seasons, years and generations, good and evil, character and its flaws. Our measures are our rules. But our rules change with place and time. We no longer look at the world through classical eyes. The antique world of the Greeks is forgotten. We moderns are otherwise engaged. Virtual reality is the name of our game. Our measures vary from person to person, traveling full circle back to Protagoras. In his relativistic system each individual man is the measure of all things. He said "What is warm to me is cool to you." Each man is his own truth. The Athenians burned Protagoras' books in the public square. But his radical ideas were never extinguished. One hundred generations later Nietzsche declared "There is no truth, only interpretation," and "God is dead." Nietzsche's "Superman" embodied power for its own sake, "beyond good and evil." In 1900 Nietzsche died a madman.[4]

The metric system makes sense. Ten fingers to count is only natural. The left parietal lobe of our brains counts and names our fingers, all 10! A kilo stands for 1,000 or 10^3, neat when contrasted with a mile of 5,280 feet. Whose feet? How many paces, yours or mine? Lightspeed is 300,000 kilometers rather than a clumsy 186,000 miles per second. A foot is 12 inches, not nearly so handy as 10. An inch is the length of the thumb of the English King, no doubt Henry VIII, the paradigm English royal. The British praised Henry VIII, who married six queens and executed two.[5] All Englishmen hailed their King's supremacy over the Church, except Sir Thomas More, Lord Chancellor, Man for All Seasons, dispatched by the eighth royal Henry to the HeadChopper.[6] By self-proclamation the Superman-King, with no male heir, was fit to rule both Church and State. Sir Thomas More's refusal was "the exception that proves the rule." Only in England does the contrary constitute proof. What can one expect from the British Isles where supposedly sane people still drive on the wrong side of the road? Needham is an English name: I am entitled to these observations. An inch is the royal thumb, two yards the royal height, a cubit the royal forearm, pounds the royal money, stones the royal weight.

We Americans inherited these mad measures, to be taken with pints of British ale. One of our recent Mars missions missed the mark when a NASA engineer confused inches with centimeters! Another hundred million dollars up in smoke. He forgot we take measures with the rule, 2.54 cm per inch. Rule is law, disregarded to our peril. Whatever happened to that fellow? Drawn and quartered, no doubt. We are similarly blessed with the heritage of English Common Law, Law applied to Commoners. In jolly old England, in Dickens' day, a man could be hanged for passing a bad check, one of a 1,000 capital crimes worthy of public stretching by the rope. Enlightened moral progress exchanged the Head-Chopper for the Hangman. Dickens' parents were thrown into debtors' prison when he was a boy, so he learned early the basic rule of Law: the weakest suffer most. As Dr. Massey noted, our race is no more virtuous now than at any time in the past. We muddled through another millennium.

In Greenwich, where an imposing English clock dictates the world's time, the Millennium Dome looks like "an upside-down wok." *The New York Times,* in "Britain's Dome Falls Flat," reports the hiring of a Frenchman from Disneyland Paris to reverse the billion pound flop.[7] Only Mighty Mouse can save the day so the Brits hire Mickey! The royals blame the Labor government. Monarchy and Lords should always be in charge. Prince Charles, still waiting in the wings, called the Millennium Dome a "monstrous blancmange," then sped off in his third brand new AstonMartin. Long live the Queen! A millennium ought to last a million years, if English makes any sense. To 1,000 we ought to add three aughts, really nothing at all. That English is now the dominant language in the world says something about the world: it's weird. A typical English rule states "i before e, except after c," as in "conceit." Finding exceptions to English rules and their exceptions is a piece of cake: "either their science is foreign or weird." Even the loopholes have loopholes in English law. What the Dickens! What better preparation for virtual reality?

We just scraped through another kilo, another Killennium after Christ, surviving the bloodiest century in history. Like squeezing through a wormhole between timewarps. Weird science fiction becomes real. None of our jubilant anniversaries obtain in China, India, or Iran. Their measures, rules, and laws conflict with ours. The human story, taken whole, is like a spaghetti-Western: there is something absurdly unreal about the awful plot.

Dr. Massey surveyed the wild potential of 21st-century scientific advance, the mix of tricks and rabbits up the genomic sleeve, the biologic manufacture of new creatures, the cloning of new bodies, the insertion of tiny computers into the human brain, little hard drives with unlimited memory put inside your clone's hippocampus. I'll name my clone e. britannica. Dr. Massey injected words of caution: "Biomedical ethics is a newcomer on the academic block. Since democracy rightly does not permit philosopher-kings, recognizing in its wisdom that all power corrupts, it nevertheless has never fully rejected philosophical advisors."[1] Eugenics and euthanasia, good genes and good death, were the inventions of bioethicists. Totalitarians put them to use. Two years assigned to a hospital bioethics committee was enough for me. Bioethicists become philosopher-kings by creeping substitution, their arcane knowledge unfettered by proof. We medical specialists simply leave complex decisions to others. All true generalists, like all great philosophers, are dead. We the living remain as narrow as our fields of expertise. Power is incrementally granted to those who take it. The academic block is the chopping block of newly self-crowned philosopher-kings and their bioethical ministers, ever ready to sacrifice the individual Man for All Seasons. Can "off with his head!" be put into politically correct English? The ethicists will find a way. Their mantle of virtue is undeserved.

We physicians claim we are too busy. Too busy to see the Leviathan in our midst, although the usurpation of our profession is plainly visible. We have hills to climb, and covenants to keep. The unraveling of the double helix of DNA parallels the unraveling of the coiled serpents of medicine, our once revered interlocking symbol of intelligence and independence. We physicians grant power to all third parties: to insurers, corporations, businesses, administrators, hospitals, committees, governments. Why deprive our noble bioethicists? Unlike Protagoras, Sir Thomas More was a religion-loving humanist. Even humanists disagree! More opposed the usurpation of power till his dying breath. More's *Utopia*, the island of Nowhere, his "golden little book," was a passionate indictment of the economic and social conditions in England and Europe, contrasted with an idealized society existing only in the mind.[6] In his *Republic* Plato showed that governments of every sort favor the powerful. Democracy provides no automatic protection. A democratic Athenian court executed Socrates, exiled Protagoras, and threatened Aristotle, who escaped "a second crime against philosophy."[2] In *The Prince* Machiavelli demonstrated how power must be manipulated to be maintained. Hobbes showed the all-powerful State existing for itself alone in *The Leviathan*. The humanist, idealist, realist, and materialist philosophers all agreed on the depredations of power. Power corrupts; an accepted truth. Except the exception that proves the rule: "Knowledge is power," said Sir Francis Bacon, father of inductive scientific method. Knowledge elevates man. Why must power corrupt? Bacon's *New Atlantis* idealized England, a utopia of science and technology used only to advance the health and well-being of the people.[8] Knowledge that transforms the means of production elevates the life of the people when all are recipients. Knowledge empowers. Power corrupts when people are excluded. Managed care excludes. Only healthy need apply: you need, we deny. The greatest advances in medicine the world has known combine with a medieval "health-care system" no one comprehends. Except CEOs whose paychecks display many aughts. Dickens' Law still obtains: the weakest suffer most.

When Sir Thomas More was imprisoned in the Tower of London his friend Erasmus called him "omnium horarum homo,"[6] the "Man for All Seasons." Dr. Massey prays that "wisdom and prudence must never be lacking in the corridors of power."[1] In the Tower More murmured the same prayer. Who hears this prayer? Who takes it to heart? More knew the flaw in the relativism of Protagoras. If each man's truth is as good as the next, why should Protagoras receive fees for his instruction? Socrates asked the great Sophist this question. A higher truth must exist, even if only in the mind. More and Socrates, great men executed by the State, still stand opposed to the modern nihilism of Nietzsche. They embody the indestructibility of truth. Truth endures. If there is no truth, only interpretation, as Nietzsche believed, then there are no grounds for this belief or any other. If there is no truth, how do we know that Nietzsche's belief is not false? A higher truth must exist, truth as old as the hills, truth the daughter of Time, truth greater than man, truth that cannot be measured, truth for All Seasons. Our new world is truly brave, with such enduring creatures in it!

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Charles W. Needham, M.D.
Norwalk

But … I'm a Healer Too!

That was my response to a friend who was telling me about a book she had been enjoying. It involved someone who was doing hands-on healing work in patients undergoing heart surgery. I was familiar with the work after having seen an article covering this in a prominent newspaper. "Healers" were in attendance before, during, and after the operation. At the time, I was struck by the partnership between traditional and nontraditional forms of medicine. "Finally, a true blend of eastern and western medicine," I thought.

As a practicing physician with limited knowledge or exposure to complementary medicine, such accounts stimulated my curiosity. My initial response to nontraditional medicine was to embrace its virtues. At the same time, I formed a sense of some disdain and disenchantment with conventional medicine. I saw "them" (not me, of course) as cold, impersonal individuals who delivered medical care without any sense of connection to their patients. "Doctors" dispensed drugs, performed operations, and went about treating patients … but not caring for them.

I sought out individuals interested in complementary/alternative medicine. I attended sessions with cuaranderas (spanish for shaman), kinesiologists, and other "healers." My expectation was to bring greater healing into my own practice. I would have something extra to offer my patients.

Somewhat to my surprise, I did not become a "convert." I stayed within the realm I had "grown up" in. Important experiences were to follow that shaped my present view of medicine. These helped to affirm my personal and professional paths. This may be the stuff of future writing endeavors.

Amidst much uncertainty, I can safely say I have reached two conclusions:

Understanding healing isn't easy.
And
My definition of healing is constantly changing.

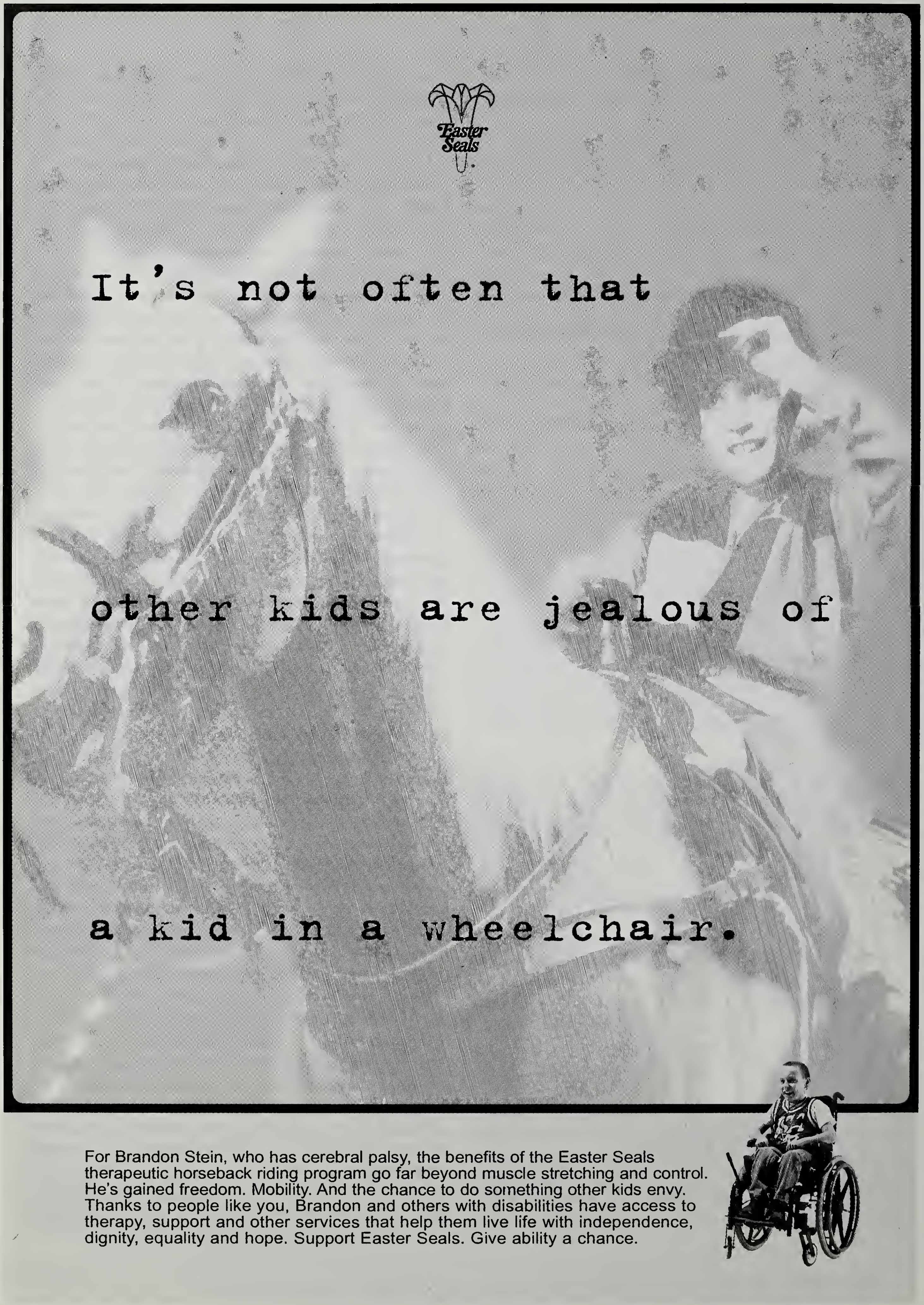
There is a picture by Picasso which best represents what I believe to be the essence of the healing relationship. The title of the painting is "The Gift." As paintings go, this is no incredible masterpiece, no act of technical prowess—two hands grasping at a bouquet of flowers. The deeper meaning is revealed when one asks the question "Who is giving, and who is receiving?" As with any meaningful human connection that comes from the heart, in the healing relationship, both are effected. Our awareness of how we are effected by this process, how our hearts are touched, is the source of our growth as we continually mature in our roles as healers. This affirms for me that there needs to be a spiritual center to what we do. A guiding sense of purpose to which we can return. A place for our hearts to reside.

I am saddened by what appears to be a widely held perception of traditional medicine. Our roles are perceived more as technicians, much like a car mechanic. We take care of the problem and send the patient on his way. The focus is on curing the disease, treating the problem. Complementary medicine has gained popularity through offering what is seen to be "missing." With terms such as "holistic" and "natural," patients turn to nontraditional healers and remedies. The greatest draw comes from those who have grown disillusioned by what is seen as an uncaring, technology-driven profession.

In the attempt to meet the needs of the many, physicians are having increasing constraints placed upon them to give patients what is most often needed, their time. What can most often ease suffering and discomfort is someone who sits with you and says "I'm here and I care." This can be termed, as a friend put it, "the ministry of presence." How important it is for our patients to feel valued and not a burden? A look down at the watch or an impatient sigh could be devastating for patients who are feeling awkward enough about imposing on a busy physician's schedule (while it is their need which is the basis of our profession). The impact that we have when we are with our patients can be profound and its importance cannot be understated.

As I sat at a board meeting, where both traditional and complementary practitioners were in attendance, one of the complementary practitioners, originally trained in internal medicine, was asked to describe what she felt was so unique to her practice. She responded, "the most alternative thing I give my patients is my time…." I could not have said it better.

Steven Goldblatt, M.D.
Hartford



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50 Years Ago

From *The Connecticut State Medical Journal*

April 1950

Problems in Planning Medical Education

C. N. HUGH LONG, M.D., *New Haven*

The Author. *Dean, Yale University School of Medicine*

MEDICAL education is at the basis of the provision of adequate medical care for our communities. The position of medical schools in a community and the provision of medical care has changed a great deal in recent years. At one time schools thought it sufficient if they provided four years, or even less than that, of medical education and turned out individuals who, at that time, were thought to be competent to care for our people. The changing function of medical schools, I think, is well reflected in some remarks of Dr. Donald Anderson last year in which he said it may be safe to predict that the medical schools will be called upon to provide more and more leadership in all matters pertaining to medicine. Such demands will result inevitably from the position that medical schools are coming to occupy as a dynamic force in the medical centers that are being created throughout the country.

Medical schools are being called upon to provide leadership in regional plans for hospital work, for graduate and postgraduate training, for coordinating research programs and for public health activities and medical care. Our horizon as to our place is therefore expanding forward beyond the period necessary to obtain the degree of M.D.

This point is sharpened by the apparent need in this country for more doctors. This need may be met in part by better distribution of our available doctors, but there is a real need certainly in some areas in the country for additional doctors. This, in the last analysis, means that medical schools such as this, and its sister medical schools throughout the country, must provide these doctors and train them for the medical needs of the community.

I emphasize that last point. We must look forward to training doctors to meet the needs of the community.

In modern medical education the emphasis is largely, at the present time, for a physician to practice in association with a well equipped hospital, particularly a hospital well equipped as regards laboratory facilities, for x-ray, clinical, chemistry, pathology, and so forth. Our training is directed towards having our physicians practice in close association with hospitals and the development of hospital plans and is quite in keeping with the present form of medical education.

Medical education has become a long and costly affair, long and costly for the student and very costly for the institution that is supporting a medical school. I will take a moment this afternoon to tell you something of the problem we face in attempting to increase the number of doctors that this country will require. Our medical education is divided at the moment into three distinct periods, one of which we term premedical, a second, medical undergraduate period leading to the degree of M.D., and an increasing period devoted to what may be termed postdoctoral education, including the intern and residency programs. At the present time there is certainly no lack of young men and women in this country who wish to follow the profession of medicine. Last year some twenty-two thousand individuals throughout this country made application to the medical schools who were able to accommo-

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Reprinted from the *Connecticut State Medical Journal*, April 1950.

Presented at the Second Connecticut Hospital Trustees Conference (Connecticut Association of Hospital Trustees), New Haven, December 13, 1949.

date somewhat less than six thousand. Every college has a very large and increasing number of individuals taking the so-called premedical course. In the Yale School of Medicine last year we received fifteen hundred applications for the sixty-five places we have available at the present time.

I am not saying for one moment that all these fifteen hundred or all these twenty-six thousand individuals were qualified for the profession of medicine, but certainly many more were qualified than it was possible to accept. The material is here to increase the number of doctors in this country. The medical schools, on the other hand, at the present time are in no condition, certainly no financial condition, to expand to any major degree the number of doctors they can train. It is very largely a financial problem for them, but not altogether that and certainly, so far as this medical school is concerned, there are other factors that limit the size of the school.

I will not say very much about the period that is at present spent in the medical school. It follows at the present time a fairly uniform pattern in most medical schools in the country. However, I can say this, that medicine has advanced to a degree when the period of undergraduate medical training is no longer sufficient to guarantee the qualification of the physician for practice. That is, no longer can an individual leave a medical school with an M.D. degree and with safety enter upon the practice of medicine. It is becoming almost universal practice that two years and in some instances even longer periods must be spent in internship and residency training over and beyond the period that is spent in the medical school itself.

This raises another problem in medical education, as to where this additional educational experience is to be obtained. It is obvious again that the schools, at the present time, are not in a position to offer this training to all who require it. A certain number graduates obtain their intern residency training in hospitals associated with medical schools, but for a very large portion of them, the educational program of these young men and women becomes a responsibility of the hospitals in which they elect to serve their internships or residencies. You can see, therefore, how interested a medical school should be in the kind of educational programs that are conducted in the hospitals to which it will send its young men and women after completion of their work in the school.

The increasing need for well trained general practitioners is forcing many of us to reconsider the value of a two year rotating internship. This, I think, is pointed up by the enormous increase in the number of so-called specialists. I am told there are somewhere between thirty and forty thousand doctors in this country who in one way or another have qualified themselves as specialists. The pressure to become specialists, that is to be certified by a Board, is reflected back into the medical schools because, as you know, many of these Boards have established the kind of programs for qualification which cannot be met by many hospitals and, in consequence, the number of acceptable residencies is becoming more and more concentrated in hospitals where such facilities are available.

In many instances these programs call for the participation of the medical school. One example: If a specialty board, such as surgery, requires that an individual have additional experience in anatomy, in this state there is just one institution where that experience can be obtained and that is in this Medical School. So more and more the function of the medical school goes out beyond its walls into relations and interrelations with the educational programs that are offered by the hospitals in the community and, of course, in the rest of the country.

We have appreciated this and we are endeavoring to do what we can at the present time to assist both the hospitals and the physicians to qualify themselves for the practice of medicine. In this School, if you look at our catalogue you will see that we are credited with some two hundred and thirty undergraduates training for the M.D. degree. Actually, that is a rather poor representation of our student body because if you include our interns and residents and a large number of individuals who come here for additional clinical training in one field or another, our total student body is well over four hundred. We conduct this program of postdoctorate education within the school.

In addition, in the last two years, particularly through the work of Dr. Willard, we have begun to offer postdoctorate training for physicians already in practice in this state. We now offer a number of postgraduate courses in various fields of medicine, some of which are given here and for others our teachers go to the neighboring hospitals. We are thus endeavoring to assist hospitals to meet the needs of their resident and intern staff so far as this kind of additional education is concerned.

For some years we have had very successful affiliations in the field of pathology with hospitals in this state and we are proposing to extend these. Now, these affiliated arrangements are not only to the advantage of the hospital concerned. We can, through such arrangements, offer opportunities for young pathologists to participate in the work of the Department of Pathology of this School—we are able, in other words, to offer positions that otherwise we would not be able to do were it not for such affiliated programs. I think there is an advantage to the hospital concerned since, obviously, a young pathologist will be more attracted to the institution if he at the same time is offered opportunities for advancement by association with the Department of Pathology of the School of Medicine.

We are endeavoring wherever it is feasible to set up plans for the rotation of residents in certain specialized fields such as in neurosurgery and in psychiatry. Furthermore, we are extremely cognizant of the difficulties many hospitals have in this state in filling internships. Of course, at the present time there are more internships available than there are men available for them and until the number of men that graduate from medical schools is increased, this will continue to give hospitals great difficulty. Nevertheless, we believe in the State of Connecticut, a relatively small state with one medical school, that this medical school should endeavor in every way possible to assist the hospitals with these problems.

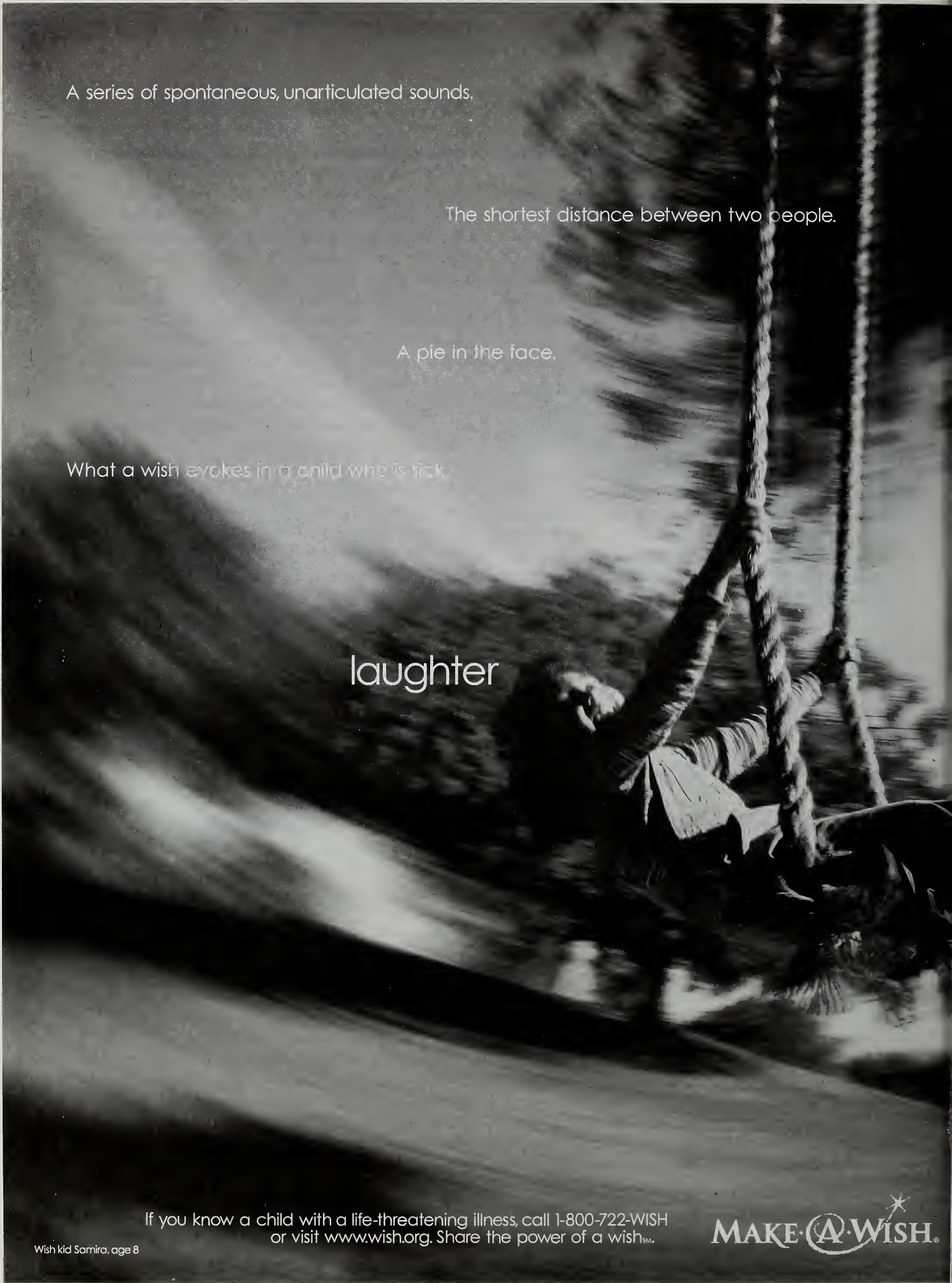
We are trying one plan with the Middlesex Hospital which may be regarded as an experiment but, if successful, may form the pattern as to how we can help. With the Middlesex Hospital we are endeavoring to set up an arrangement by which an educational director will be appointed and hold a position on the staff of this school. He will work out the educational plan for the interns in this hospital along with the school of medicine, offering those interns opportunities for study and observation in our services, and in our laboratories. We can offer the educational director the opportunity to continue his own interests in this school, in medicine or in surgery or any other field.

Of course, we cannot promise, nor should we attempt to do this for every hospital in Connecticut but the principle of the operation is that those hospitals or those institutions that have facilities comparable to those we possess here, should make them available to the interns and residents of the smaller hospitals where obviously they could not be provided except at very great cost and at the expense of duplication.

I mentioned a moment ago the question of the expansion of this school so that we can train additional numbers of doctors. We are limited here and have been for some time by the clinical facilities available to us. At the moment these facilities very largely are in the New Haven Unit of the Grace New Haven Community Hospital. In the future it will probably be possible to make use of the clinical facilities of the new Veterans Hospital. That, of course, will provide only certain services. I will say here and now that this school is not adverse, under appropriate conditions to establishing relationships with other hospitals in the state for training of our undergraduates. We have the laboratory facilities here and we could increase the number of our students if we had additional clinical facilities.

Many of you have heard of the difficulties confronting medical schools in meeting their present costs. You are well aware of the difficulties in meeting the cost of hospital operation. We have an equally large problem in meeting the cost of medical education. It is these costs that are thwarting many, many schools in their real desire to increase their facilities for training physicians, both at the undergraduate and graduate levels.

There is a paradoxical situation in many medical schools today. I can, perhaps, use this school as an example of it. There has been unparalleled expansion in the amount of money available for research in the medical sciences. There has never been a time when so much money was available for medical research. Last year we received from various agencies of government and private foundations over $1,000,000. Now, research is carried out by trained men and women and the training of men and women for research in the medical sciences is carried out by the universities and the medical schools. Yet, in the midst of this plenty so far as research funds are concerned, this medical school operated last year at a deficit of over $600,000. It is the provision of adequate funds for medical education which is one of our crying needs at the present time. It must be apparent to you that unless medical education as well as research is supported not only will the provision of an adequate number of physicians for the needs of this country be impossible, but the progress of medical research which is carried out by the products of the medical schools and universities will be certain to be retarded.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50 Years Ago

From *The Connecticut State Medical Journal*

April 1950

Aspects of Drug Addiction

JOHN H. FOSTER, M.D., *Waterbury*

The Author. *Chairman of Drug Addiction Committee of the Connecticut State Medical Society*

DRUG addiction has been defined as, "a state in which a person has lost self control with reference to a drug and abuses the drug to such an extent that the person or society is harmed."[1]

Thanks to the concerted action of our state and federal officers this problem seems to be less than in former years. However, as practicing physicians we all see occasional cases, some more than others, but which in the aggregate form a real challenge to the medical profession as well as to the governmental agencies. I want to discuss some phases of the drug problem as seen by the physician and from the point of view of the addict.

The narcotic problem is a terrific one for the individual who has become entangled in its meshes. It is a serious one for the law enforcement officer of the community, state, and nation. The narcotic agents of our State Department of Health and the federal agents of the Treasury Department are constantly on guard as you must recognize from the frequent newspapers accounts of the arrest of smugglers and drug peddlers. Last year more than ten million dollars worth of illegal drugs were intercepted in New York City alone.[2]

Internationally the fight for the control of narcotics is a tremendous one.[3] There have been international conferences and agreements which have attempted to control drug traffic, The Shanghai Commission of 1909 and The Hague Convention of 1912 which were only partially successful up to the 1920's. The League of Nations, through its Opium Advisory Committee of the Geneva Convention in 1924, built up an effective organization which for twenty years had fought to restrain the production and traffic in drugs, frustrated largely by the Japanese who built up an immense industry for the systematic drugging of China and for smuggling into other countries.[4] This work since 1946 is under the control of the United Nations Commission on Narcotic Drugs, a function of the Department of Social Affairs with headquarters in Geneva.

Opium has been recognized for its medicinal value as well as for the social problems it produces for centuries.[5] It is said that the poppy was known as far back as 4000 B.C. as the "Plant of Joy" and Egyptian Papyri of 1500 B.C. specifically mention opium. In the second century Galen's Eulogy of opium might very well have been copied by the present day patent medicine advertisement. "It resists poison and venomous bites, cures inveterate headache, vertigo, deafness, epilepsy, apoplexy, dimness of sight, loss of voice, asthma, coughs of all kinds, spitting of blood, tightness of breath, colic, the iliac poison, jaundice, hardness of the spleen, stone, urinary complaints, fevers, dropsies, leprosies, the troubles to which women are subject, melancholy and all pestilences."

In the dark ages of European culture the popularity of opium continued and was used by the Mohammedans, Arabs, and Chinese. Paracelsus a great physician in the 1500's favored it. Sydenham the famous English physician who introduced laudanum stated, "among the remedies which it has pleased Almighty God to give to man to relieve his sufferings, none is so universal and so efficacious as opium." It was used in the crude form or as laudanum until the beginning of the nineteenth century.

Reprinted from the *Connecticut State Medical Journal*, April 1950.

Address of the retiring president to the Waterbury Medical Association, January 13, 1949

Morphine was discovered by Serturner in 1805, and that marks the beginning of the more exact method of drug administration. Codeine was discovered a few years later, but heroin did not come into the picture until nearly 100 years later (1898). The hypodermic syringe came into use in 1853 and for some time was considered to be a safer method, less dangerous and less habit forming because the drug did not go through the stomach. This tended to increase the use of morphine, so that in 1880, H. H. Kane in a book stated, "There has been no therapeutic discovery that has been so great a blessing and at the same time so great a curse to mankind as the hypodermic injection of morphine."

Opium has left its effects upon the literature of our society.[6] We have all heard of DeQuincy's "Confessions of an English Opium Eater." Samuel Taylor Coleridge of the Ancient Mariner fame was an excessive user of opium and laudanum, and did his best work under the influence of these drugs. Similarly Edgar Allan Poe in our country wrote many of his famous works under the effects of the same drugs.

It is said that a great number of our recent literary, musical and radio entertainers have been and are still depending on the stimulant effects of narcotics.

Last year I had a patient, forty-three years of age who was referred to me by the Federal narcotic agent while waiting transportation to Leavenworth, Kansas for hospitalization. He was in a reminiscent mood and discussed at length the problems of the addicts as well as the various phases of his career and put some of these on paper. At the age of fourteen he traveled around the country with a vaudeville company away from home, living promiscuously with others in the troupe. After being rescued from this situation by his family he worked in night clubs and then had a period of bootlegging; thus, at the age of seventeen he was earning $200 a week, with lots of money to spend for silk shirts, cars, and living high. With the repeal of prohibition his income stopped and he had no work. There was a lot of money in drug peddling and for several years he was in that until the government cleaned up the town here and he had to quit.

A former pal of his was in New York making a lot of money as a pimp and our friend found the same easy money, cars, silk shirts, et cetera, doing the same thing.

It was in 1930 when he was 25 that his pal told him of the kick he got of opium smoking parties and eventually took him to one. He described in detail the cooking of the opium; a small dab of raw opium after being toasted into a pill form was placed on the bowl of the opium pipe and the smoke then inhaled slowly. This procedure was repeated many times and the pipe passed around the room. After ten or more pills "you start to feel an itching come over your body and a feeling of easiness and calmness and a dryness of the mouth. Taking water will bring on vomiting. You get a yearning for something sweet and candy is usually there. You get sleepy but sleep is not for you as opium keeps you awake. You have no desire for food and have a feeling of passion creeping up on you. You find yourself talking a lot. After feeling high for about twenty-four hours it starts to wear off."

One party led to another and he soon had his own pipe and was cooking his own. Opium was then about $45 a pound, which would last about a week, but the price was soon $100 a pound and harder to get; now it is $400-$450 a pound.

His girl friend who had been supporting him left him and it became necessary to change to the next best and cheaper drug, heroin. This put him in the class of drug addicts. An opium smoker considers himself in a higher class and does not associate himself with the ordinary drug addict, one who uses a hypodermic. He would have nothing to do with them. Now he had to find a new pal and from then on moved with a different group. His description of the effect of this new drug was very vivid. "There was a new sensation on shooting it into the blood, a hot flash and feeling of pins and needles all through his body and a feeling of exhilaration and a sense of keenness and activity. The mind was clear and not clouded, with none of the stupor and drowsiness that goes with opium and morphine. The effects, however, were not lasting and had to be repeated frequently and the only pleasure was during the actual period of shooting it into the vein."

This patient discussed in detail the suffering that goes with abstinence. The drug became as necessary as breathing fresh air. Pains in abdomen, cramps that seem to tear the stomach away and extreme nervousness making him want to tear his head off when no drug was available. He was taking about seven grains of heroin a day for over a year when he experienced the "cold turkey" treatment or cure and that was apparently a terrible experience. About twelve hours after the last dose there was nervousness, dripping sweats and feeling cold all over but with flashes of heat which increased in severity for several days with increasing exhaustion and weakness. About the second day vomiting started which lasted for four or five days or more. There was a terrible restlessness with almost no sleep for two weeks or longer. The body and abdominal pains were almost unbearable and all the nerves were jumping. It was impossible to lie down and he paced the floor and tossed on the bed, tortured beyond words. About the 9th and 10th day the pain and nervousness begin to let up. There followed a period of hunger and rapid return of interest in life. Strength gradually returned but usually took about three or four months before feeling normal again.

After the cure what are the chances of an addict staying away from the drugs? He says the chances are very small. It is not clear what makes them go back, it is not merely a lack of will power. Their pals do not encourage them because they know the hell they have been through. However, sooner or later most of them will be back using the drugs. Of the hundreds of addicts he talked with while in Leavenworth many gave the same answers—"something was missing; their nervous system wasn't right."

This patient pleaded for a system of government clinics where addicts could register and be supplied with the necessary drugs at a reasonable cost. He claimed this would enable a man to hold down a job and would cut out drug peddling and reduce the expense of law enforcement. The proper controls would prevent reselling the drug. Business men would lose less from shop lifting, a real sizeable sum as every business man knows.

A criticism to this solution is given by the Federal agents,[1] who state, "This reasoning is unrealistic, as has been shown by several attempts in this country and abroad that have failed. Addicts on such rations connive to get more than their allotted amount of drugs, so that they can increase their dosage and continue to obtain a euphoric effect. They may sell, or give away, part of the extra supply so obtained to persons who are not addicted. This creates new addicts who are potential customers for the contraband market and thus increases the problem which the ration plan is supposed to abolish. Furthermore, many addicts can be treated and learn to live a useful effective life instead of one of personal neglect, indolence and semisomnolence which is so typical of the addict. Addiction is infectious, and treatment, rather than support of addiction, is necessary to minimize its spread."

The patient has since returned from Leavenworth where he had the reduction cure and is resolved never to go back to using drugs again, but he is not quite sure.

The fact is that by making it more and more difficult for users to secure drugs the number of addicts has been reduced from an estimated 200,000 in the country 20 years ago to under 50,000 at the present time.[1]

Addiction to narcotics does not have much effect on the physical well being of the individual but it always does effect their personality unfavorably. In a recent (1947) report of the Bureau of Narcotics[7] discussing Demerol which is now realized to be as dangerous as any of the narcotics, states, "The general level of the personality deteriorates. There comes a deep intellectual dullness, retardation of all psychic activity, a change in ethical and spiritual values. Patients reached in a short time a degree of deterioration which is usually only seen after years of morphine addiction and which is comparable with the effects of cocaine." Workers in mental institutions have noted that in narcotic addicts the deterioration in moral sense and in consideration of others, a dulling of the higher centers, is more marked than in chronic alcoholism.[8]

Another patient, No. 3840, wrote of his own experience starting out of curiosity after reading DeQuincy's book when he was eighteen. He found a great mental and physical lift after the use of morphine and not until he was taking two or three grains a day did he realize what he was getting into. He went fishing with some friends one day and took no drugs with him. After suffering severely all day he finally walked ten miles home to get relief.

Morphine was cheap at the time, before the beginning of the Harrison Act, and he was taking up to 40 or 50 grains a day. It made him sleepy and affected his work so he tried adding cocaine, but the combination was too much for him so he took the cure at Towns Hospital in New York. It was not very long before he was back using drugs again. Shortly afterward, at the age of 25, heroin was being claimed non habit forming and he was soon using this in large quantities and using it intravenously. He spoke of getting his drugs from a peddler who made his appointments near the Bowery Mission. He sold only in ounce lots and told him he often sold one hundred ounces a week at $50 an ounce.

Along in the 1930's it was becoming almost impossible to secure morphine and heroin and he resorted to paregoric, making the rounds of drug stores getting one to two ounces from each and putting into a flask in his pocket. After several attempts at treatment he was very discouraged about ever being cured of his habit.

The work of our narcotic agents in the State Department of Health first under Dr. Millard Knowlton with Arthur S. Rivard and later Dr. Eugene Lamoureux, all three of whom have died fairly recently, has been outstanding. The department was set up in 1934 after the adoption of the Uniform Narcotic Act by this state along with almost all other states. For the last three years they have had from 80 to 90 new cases a year, from 10 to 15 being committed to the State hospital for treatment. About 6 to 15 each year would be found in medical need of the drugs and no action taken and about the same number were turned over to the federal narcotic agents on criminal charges. There were usually two to three paregoric addicts, one to three cases using mariahuana and five to seven cases of barbiturate addiction.[8]

The State and Federal Narcotic Agents say that Connecticut ranks high among the states and that the problem is well under control. The problem of the physicians in this State they say is not a serious one. There are generally a few involved with the law, but doctors are subject to unusual temptations. They do request us to be on the outlook for addicts who, as you know and have been warned, are very clever in faking their histories and symptoms in order to gain sympathy and get prescriptions. These cases should all be reported directly to the health officer who will get in contact with the narcotic officer. It is an ever present danger.

There are many other aspects of the problem which would be interesting and worth while to discuss:

1. The newer narcotic preparations—Dilaudid, Methodon, Metopan and Demerol and their relatives. 2. The various types of treatment for drug addiction. 3. The psychological and psychiatric aspects of the addicts. 4. The barbiturates. 5. What to do with addiction to the drug, alcohol.

In closing I want to re-emphasize the every day importance of drug addiction. The constant fight between the law enforcement agencies, local, state, national and international and the illegal drug traffic and the realization of the fact that the drug addict is a warped abnormal person whose affliction should be treated sympathetically as a real medical problem.

NOTE

December 1, 1949.

After 5 months of abstinence, Joe returned to heroin and the constant struggle to obtain it. He has recently been taking 2 grains (@ $1.00 per grain) intravenously every 3 to 6 hours.

At this time he is in the Waterbury Hospital following a severe hemorrhage from a gastric ulcer, and is prepared to return to Lexington under a 6 months voluntary committment after his discharge.

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On Autonomy and Conflict of Interest

When conflicts of interest appear to swing towards the selfish motives of a physician—a needless operation, an upcoded procedure or office visit—we physicians usually argue, (call it rationalize), that the episode occurred in deference to the patient's needs. When conflict of interest occurs at the corporate level in health care, a level at which doctors are increasingly involved as interested parties, and when the conflict settles in a manner deemed detrimental to the individual patient, the corporation and its associated doctors argue (or rationalize) that it was carried out in pursuit of a social good benefitting all patients.

Ethical conflicts of interest in health research have lately reached a high profile in the public eye. Our most prestigious medical publication, *The New England Journal of Medicine,* felt compelled recently to issue a public apology for violating its own scientific conflict of interest policy. It has promoted the policy that authors with financial ties to pharmaceutical companies should be barred from writing reviews or editorials about those companies' products. It has in the past encouraged other medical journals to adopt the same policy in order to protect all of us, the medical readers and the public we serve, from being influenced, or perhaps injured, by biased science. The journal, in its apology, owned up to the fact that since 1997, 19 out 40 drug therapy reviews published in its pages had authors with financial links to the pharmaceutical companies that produce the products described favorably in their articles.

We are told in the press that studies have shown that authors with a drug company's financial support are more inclined to make favorable conclusions about their products than are authors without those ties. Those ties may not be direct payment of dollars to the individual researcher, although that is the most obvious, but may be support of an institution or hospital for which the researcher works. The researcher may be a major investor in the company with visions of a significant financial gain if the drug becomes a new panacea. Drug companies spend 24 billion dollars a year on research and development, and another eight billion dollars promoting and advertising their drugs. Doctors and hospitals, in their quest for offsets to reduced clinical and educational reimbursements, and to find alternates to limited NIH research funds, fall prey to the financial inducements of the pharmaceutical and technology corporations. More and more professional societies are seeking drug and technology company support for their meetings.

We were all saddened by the 1999 death of 18-year old Jesse Gelsinger as a result of a gene therapy mishap at the University of Pennsylvania. Jesse was a young man from Arizona with a genetic defect called ornithine transcarbamylase deficiency which rendered him incapable of properly processing ammonia in the liver. It seems that when Jesse heard of the gene therapy research on his condition being conducted at Penn, even though he was not terribly sick with the disease, he was moved by concerns for his future health and by altruistic concerns for others with the disease and became a subject in the research. After what was deemed informed consent by Jesse, in the presence of his father, as to risks and benefits, the doctors administered intravenously the corrective gene, carried by a deactivated adenovirus. The objective was for the virus to deliver the new gene into Jesse's liver cells providing a correction for the deficiency he had suffered since birth and which, uncorrected, would make him sick in the future. Jesse died in multi-system organ failure four days later. The presumed cause of death was a violent triggering of the patient's immune response, perhaps by the attenuated adenovirus.

In the aftermath of this tragedy, Senator Bill Frist, a surgeon, called for hearings in Washington at which the boy's father tearfully testified. He recounted that the informed consent discussion gave little hint of the real potential for a fatal outcome. It was suggested that Jesse, in relatively good health despite the defect, was not truly eligible. It was also revealed that in nearly 100 gene therapy trials in U.S. medical centers there were 691 instances of adverse effects from the administration of the gene-virus combination of which only 39, or 5% were reported to the NIH. Eligibility forms for those entering as test subjects were often incomplete. Hearing all of this, the FDA, which has of late responded to pressures from pharmaceutical houses and medical researchers by speeding up its approval of new drugs, promptly shut down all gene therapy research at the University of Pennsylvania, as well as at the University of Alabama.

(continued on next page)

What's going on here? We all know about competition among scientists to be first with a new discovery. We know that scientists and medical researchers and even medical practitioners are not above seeking patents and financial rewards for their discoveries. This is not new and it is not particularly unethical. History buffs may recall that Dr. William T.G. Morton tried to hide the identity of sulphuric ether by calling it "letheon" after his successful demonstration at the Massachusetts General Hospital in 1846.

But, what happened to Jesse Gelsinger was not, or not principly, the result of self-interested scientists. The moving force behind the compromise of autonomy and informed consent, behind the under-reporting of serious effects and the haste toward the marketplace was the huge dollar infusion from corporate America into health care/research institutions that saw the need for that kind of money for their survival and the survival of their investigators. In 1980, Dr. Arnold Relman warned in a speech before the Massachusetts Medical Society, about the "medical-industrial complex". He said, "We should not allow the medical industrial complex to distort our health-care to its own entrepreneurial ends.... Closer attention from the public and the profession, and careful study, are necessary to ensure that the medical industrial complex puts the interests of the public before those of its stockholders." Now, 20 years later, in an article in the March issue of the *Atlantic Monthly* entitled, "The Kept University," the authors, Eyal Press and Jennifer Washburn state in their introduction: "Commercially sponsored research is putting at risk the paramount value of higher education-disinterested inquiry. Even more alarming, universities are behaving more and more like for-profit companies."

In 1995, when the President's Advisory Committee on Human Radiation Experiments made its report, Mr. Clinton commented: "The breathtaking advances in science and technology demand that we always keep our ethical watchlight burning.... Science is not ever simply objective. It emerges from the crucible of historical circumstances and personal experience. Times of crisis and fear call forth bad science, even science we know to be unethical. Let these pages (the report from the Advisory Committee)serve as an internal reminder to hold humility and moral accountability in higher esteem than we do the latest development in technology."

H. David Crombie, M.D.
Editor

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in Ecuador will change the lives of the
kids in his neighborhood back home.
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Oaths and Obligations

Although you will not be reading this column until late April at the earliest, it is being written during the week in which the Supreme Court heard the Herdrich case (Cynthia Herdrich *vs* Lori Pegram, M.D., et al). In this case the plaintiff claims she suffered (unnecessary) rupture of her appendix because her doctor, a participant in a doctor-owned health plan, delayed a necessary ultrasound for eight days and sent her 50 miles away to have it done, in order to save the health plan some money that could be used at the end of the year to give bonuses to the physician owners/participants.

During the Supreme Court hearing, some interesting comments were made by the justices.

Justice O'Connor correctly noted that any HMO involves "incentives to keep costs down in order to provide the care and make it pay for itself.... That's the scheme that Congress has authorized."

Justice Breyer, discussing the 1974 ERISA law that is under attack in this case, opined that it was "hard to believe" that when Congress passed the 1974 law governing employee benefits, it "wanted to gut its own HMO legislation," passed a year earlier (the HMO law).

I agree with the justices. Like it or not, these observations describe precisely what HMOs are all about—controlling costs. And they control costs, in part, in order to generate bonuses, withhold returns, and other incentives for physician participants, as well as profits and dividends for shareholders. They are doing exactly what the law, and Congress, provided for.

But they do so at the patient's risk. And they do so in contravention of the very principles of medical ethics that have been handed down to us throughout the ages in the form of oaths for physicians. Oaths that carry with them the justifications and judgments of the millennia.

There are good reasons that these oaths have survived for so long. They express the very essence of our profession. They tell the truth about what the physician/patient relationship should be. Yes, some people find them old fashioned. But frankly, I have neither patience with nor use for some of the more recently contrived medical oaths that seek to sanctify the needs of the group over those of the individual. These new oaths are, indeed, more in keeping with the communal, cost-cutting, patient-risking care that is the essence of managed care. And I don't like them.

Hippocrates said: "Into whatever houses I enter I will go into them for the benefit of the sick and will abstain from every voluntary act of mischief and corruption." I am sure that he would have considered the treatment of free-standing clinics or hospitals as "profit centers" to be, at the very least, "mischief and corruption!"

Maimonides prayed, "Never let me see in the sufferer anything else but a fellow human being in pain." I'm sure that, even in his weakest moments, the Rambam never saw in the sufferer, "a covered life."

Each of these great teachers put the individual patient first—in clear and central focus. I can see no reason to alter this perspective.

Those great minds did not view their patients as members of groups to which they were obligated to equitably distribute scarce and limited resources. They would never have advocated ignoring the totality of an individual's needs in favor of some twisted logic that says that equal is better than necessary and sufficient. In short, they would never have allowed a postmodern "principle of justice-equity" to keep them from giving patients anything less than was needed for "a complete and perfect healing."

The AMA has struggled with this individual *vs* communal tension as well. In a summary "Statement of Principles" derived from their 1994 "Ethical Issues in Managed Care" the AMA notes, among other things, that

- "(1) the duty of patient advocacy is a fundamental element of the physician-patient relationship that should not be altered by the system of health care delivery in which physicians practice...," and,

(continued on next page)

- "(2b) physicians must advocate for any care they believe will materially benefit their patients...."

Tom Lagrelius, M.D., the founder of INDOC (Independent Doctors of the South Bay), has commented that there are currently three extant models for medical practice: the government model, the business model, and the professional model.

Evidence of the failure of government models is rampant throughout the world—not just in the former communist bloc, but in the so-called social democracies as well.

- In Great Britain, there are now waiting lists to get on waiting lists!
- From Canada, patients cross the Canadian border to obtain cardiac catheterizations and surgeries in Seattle, Washington, and cancer radiation therapy in Rochester, New York. Some Canadians even buy mobile homes in Florida (as well as Florida Blue Cross/Blue Shield policies) so that they can winter in the warmth while getting the much-needed lens implants and hip replacements that have eternal waiting lists in their native country!
- Here in the United States, our politicians are falling over each other in their scramble to throw more and more *general tax revenues* at the fiscally collapsing Medicare program, a scheme who's financing, we were once told, was supposed to be completely covered by the special, universal, and unending payroll tax that is added to all of our other taxes just for this specific purpose!

That the business model has failed is so obvious that even members of Congress recognize it! And so they joust and spar with each other to see who can present the more inclusive "Patient's Bill of Rights" in an effort to "fix managed care"—in other words, to whitewash the obscene failure of the corporate socialism that they themselves inflicted upon us! Wouldn't it be easier to repeal the HMO law of 1973 and it's subsequent tentacles of additional, obfuscatory law? I think so. And that would be a far more honest and courageous act. This is precisely what the Supreme Court justices were alluding to when they made their prescient observations. But of course, the justices have the luxury of tenure. They don't have to run for office every few years and face voters who have been conditioned to exchange their votes for "gifts" from the federal treasury.

The essence of my message is that I grew up with, and spent my entire medically productive life within the professional model. I've seen it work. I've seen the paying patients get top-notch care under this system while it concomitantly and willingly contributed endless high-quality charitable care for the common good and built superb academic medical centers that could emphasize their triad of teaching, research, and patient care, all without compromise. The professional model may be far from perfect, but I do know that it's the only model that incontrovertibly puts the patient first. And I do know that, in the final analysis, it invariably brings, to both patient and physician, the highest achievable degree of satisfaction, accomplishment, and healing.

So at the risk of whatever popularity and readership I may have, I must say to you quite bluntly that I don't think physicians ought to work for HMOs in order to assure themselves a patient base.

And I don't think that physicians ought to join managed care groups in order to assure themselves a steady cash flow.

And no, I certainly don't believe in an employer-based medical insurance system that assures physicians and hospitals a minimum base of "paying customers," even if the pay isn't very good. As best I can remember, the words "Arbeit macht frei" appeared on the gates of Auschwitz, not over the entrance to the U.S. Capitol.

I don't want a new, postmodern oath that places the group above the individual. To put it in the vernacular, "we've been there, done that," numerous times, always with horrendous consequences, particularly so in the twentieth century.

No, I don't believe in any of that. And I don't think that you should either.

But I still fervently believe that we serve our patients best when we "swear by Apollo the Physician, and Aesculapius, and Hygeia and Panacea, and all the gods and goddesses...."

"The harvest is past, the summer is ended,
And we are not saved."
—Jeremiah 8-20

Stephen R. Katz, M.D.,
President

Gaping Holes in the Social Fabric

ROBERT U. MASSEY, M.D.

DURING my hour with the morning newspaper the conviction recurs, more often than I like, that "surely the world is going to hell in a handbasket." Then it comes to me that this has ever been so; more than two millennia ago Cicero cried "O tempora! O mores!" and we're still here. Given that we are a tough species, we shall likely recover. Such thoughts are reassuring.

But take for example the stories in the *Courant* last month: 1) binge drinking increases at colleges; 23% of the students drink five or more drinks two times each week. 2) The *Courant's* parent company, the Times Mirror in Los Angeles, has merged with the Tribune Company in Chicago, an outfit that owns 11 newspapers, 22 TV stations, and four radio stations. Can the ethical code that once characterized journalism survive the corrupting power of such money and influence? 3) "Shouting, swearing, obvious drunkenness, and even lewd make-out scenes have now infiltrated fine dining—behavior that would seem unthinkable a decade ago." One egregious episode occurred even in our small town of Avon!

Megamergers among HMOs, pharmaceutical companies, electronic and print media, book stores, banks, even automobile companies, are all monopolistic moves to crush the less efficient but friendly and accommodating smaller enterprises. What happens to the truth when information is controlled by two or three huge corporations whose compelling object is to make millions for stockholders and CEOs. Is this a way around the First Amendment? The government won't smash the printing presses but some CEO and his board will determine what we should see, hear, read, and believe! The reporters, columnists, writers, and news anchors are already being referred to as content providers!

But surely the most fearsome is the creeping incivility, offensive behavior, public vulgarity, the notion that courtesy and deference are undemocratic, threatening to our overprized egalitarianism; in short, good manners are offensively elitist!

Civility is the means by which a democratic society controls itself. Contempt for the rules of courtesy and decency turns quickly into disdain for the law; bonds of neighbor and family are loosened, trust dies. In such a state there are, as Thomas Hobbes wrote:

> No arts, no letters, no society, and, which is worst of all, continual fear and danger of violent death, and the life of man solitary, poor, nasty, brutish, and short.

De Tocqueville in his *Democracy in America* concluded that the Americans were able to sustain their democracy, not by their physical or geographic circumstances, nor even by their laws, but rather because of their moral convictions, their manners, their "social happiness."

> So seriously do I insist upon this head, that if I have hitherto failed in making the reader feel the important influence which I attribute to the practical experience, the habits, the opinions, in short, to the manners of the Americans, upon the maintenance of their institutions, I have failed in the principle object of my work.

Cicero's *mores* meant ways, conduct, or character. Like the Greek *ethos*, signifying habits, custom, or usage, the root words for both morals and ethics imply ordinary behavior, manners, the respect or lack of it by which we live our lives together, the matrix of a peaceable community.

In the 1930s, my high school years, we were addressed by our teachers as Mr. or Miss., never by our first names, Now on my rare visit to a physician's office, I am called Robert by strangers, receptionists, or nurses, without eye-contact or a smile. A physician friend, once a patient in a well-known New York hospital, told me that there he was addressed either by his first name or as mister, never as doctor. He inquired about this and was told that "We don't make distinctions here."

These are tiny threads in the social fabric; but when they are drawn out one by one, soon the entire fabric must fall apart. Francis Fukuyama, author of *The Great Disruption*, by which he meant the sweeping away of social norms during the past 30 years, writes hopefully of reconstruction: "... signs suggest that culturally, the period of ever-expanding individualism is coming to an end." Gertrude Himmelfarb, in her book, *The De-Moralization of Society*, is less sanguine: "What the New Victorians have created is a species of 'moral correctness' designed to complement the prevailing 'political correctness.' Their real kinship is not to the Victorians but to George Orwell's 'Big Brothers' (or 'Big Sisters,' it may be)."

She writes that "An old Victorian would call it censorship without morality." I hope she is wrong, but I doubt it.

ROBERT U. MASSEY, M.D., Professor Emeritus, Division of Humanistic Studies, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington.

MEDICAL NEWS CAPSULES

This Month's Reading in Review

TIMOTHY B. NORBECK

"The initials H.M.O. stand for health maintenance organization, but where, I'd like to know, is the 'health maintenance' these organizations are supposed to provide?... The system remains penny-wise and pound-foolish... Because we have long known that the best way to deal with an illness is to prevent it and the second-best way is to detect it in its infancy, it is time for consumers to start demanding that managed care plans uniformly provide coverage for well-person check-ups, screening tests for early detection, programs to help people shed unhealthy habits and more effective guidance for dealing with chronic health problems... In fact, studies have shown repeatedly that modifiable health risks add significantly to the costs of health care, accounting for as much as 70% of all medical care spending."

Jane Brody in *The New York Times*
(14 March 2000)

According to a recent poll by the Kaiser Family Foundation and the Harvard School of Public Health, one in two Americans believes that managed care has not produced significant cost savings.... Of those surveyed, some 15% say managed care has been improving, while 40% say HMOs are doing a worse job that they were one year ago.... Thirty-seven percent said that personal experience shaped their negative views.

Modern HealthCare (6 March 2000)

Several of the nation's largest HMOs are facing a major legal challenge, as two law firms have filed suit in California Superior Court alleging that the insurers "conspired to limit services to Medicare beneficiaries" in an effort to force Congress to increase reimbursement rates.... This suit differs from other HMO lawsuits since it does not allege breach of contract or conflict of interest.... Instead, it charges the HMOs with restraint of trade, claiming that the companies denied potential enrollees access to the plan when they agreed to "redline" certain regions in California.... The suit indicates that 14,000 elderly and disabled Medicare beneficiaries were affected.... Defendants named in the case are Aetna, Cigna, Lifeguard, Prudential Healthcare Group and United Health Care.

Wall Street Journal (7 March 2000)

"Aetna's total market value has fallen to less than it paid in 1996 for U.S. Healthcare, its biggest HMO acquisition. Aetna soared to $100 a share because the market approved Huber's bet on managed care. Now the stock is below $40 because the market no longer believes in managed care... Managed care is a doomed model because it can't do what it's supposed to do—control cost—without antagonizing its customers."

Holman W. Jenkins, Jr. in the *Wall Street Journal*
(23 February 2000)

Road Hog—A traffic accident in Shanghai ended up in court.... Nothing unusual about that—except neither road user had a car....The collision involved a man on a bicycle and a farmer in charge of a mobile pig.... The cyclist was found to have obeyed the rules of the road, and the court couldn't blame the pig—who had made an understandable freedom dash while being taken to a food market.... A fine of 12,000 renminbi ($1,446) was levied on the farmer, for losing control of the pig.

Forbes (6 March 2000)

Maintaining that they were "falsely linked" to pediatric care guidelines, two Texas pediatricians are suing the consulting and actuarial firm Milliman & Robertson, the publisher of guidelines used by insurance companies to help determine the length of hospital stays and where to pay for treatments.... The lawsuit, which might be the first to "directly attack the credibility of such guidelines," contends that the guidelines have "no basis in sound medical practice, and raises the specter that Milliman & Robertson tried to buy scientific legitimacy by giving $100,000 to the pediatrics department at the University of Texas-Houston in exchange for the school's stamp of approval." The suit also raises questions about whether the pediatrics department, "to accept the money, manipulated its own faculty into becoming 'contributing authors.'"

Houston Chronicle (6 March 2000)

Only in America—A high-school teacher in Franklin, Ohio, was reprimanded for offering a list of possible topics for an assignment to 9th and 10th grade English students that included the question: "If you had to assassinate one famous person who is alive right now, who would it be and how would you do it?" Parents said they were outraged, considering the string of fatal shootings of students and teachers at schools around the country.

Forbes FYI (6 March 2000)

TIMOTHY B. NORBECK, Executive Director, Connecticut State Medical Society, New Haven.

Letters to the Editor

Letters to the Editor are considered for publication (subject to editing and abridgement), provided that they are submitted in duplicate, signed by all authors, typewritten in double spacing, and do not exceed 1-1/2 pages of text (excluding references). They should not duplicate similar material being submitted or published elsewhere. Letters referring to a recent Journal article should be received within six weeks of the article's publication.

RE: The Interview with Dr. Gerald Labriola

Letter to the Editor: I just happened to be going over the January issue of the *Connecticut Medicine* again and read the interview that you and Tim Norbeck conducted with Dr. Gerald Labriola. What a great interview and what a great idea! You should be doing more of that sort of thing. You and Tim asked good questions and Dr. Labriola's answers should inspire all physicians to stretch their limits and reach beyond medicine for fufillment in their professional lives.

In particular, Dr. Labriola's advice to physicians to broaden their focus and get involved in the politics of medicine was on target. This is an area where physicians need to make a better showing. Even though we have our national organizations and specialty societies to represent our interests, all too often their focus is on protecting their members' turfs and their financial security. In fact, because of this undue stress on finances, our specialty societies are undermining physicians' ability to unify. Solidarity is impossible when our specialty societies have us pitted against one another. The tensions between specialties may be under cover, but they are there.

When I attend a house of delegates meeting I look around the room and am amazed at the talent that resides in my colleagues but which somehow is unable to find collective voice and commitment. Without them real reform is impossible. Thus it is important to hear from a seasoned and respected physician like Dr. Labriola about the necessity and reward of getting involved in medical politics—writing a letter to the editor of a local newspaper, going on a radio interview, speaking to a civic group or participating at the state or county medical society level. I think that if you keep this issue in the minds of your readers it may take root. If doctors hear it enough they may begin to see it as an honorable activity.

You might consider interviewing younger physicians to get their opinions on job satisfaction and how they perceive their future; or physicians in different specialties commenting on problems particular to their specialty; or primary care doctors—their specialty is the most misunderstood of all and they would love the opportunity to voice their concerns. Hospitals still don't know where to place them in the medical staff hierarchy.

With your interviews you are able to give those doctors who are shy about writing an opportunity to be heard. That alone may be the best reason for doing more of them.

Edward J. Volpintesta, M.D.
Bethel

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The American Medical Association Organized Medical Staff Section (AMA OMSS) invites your medical staff to be represented at its

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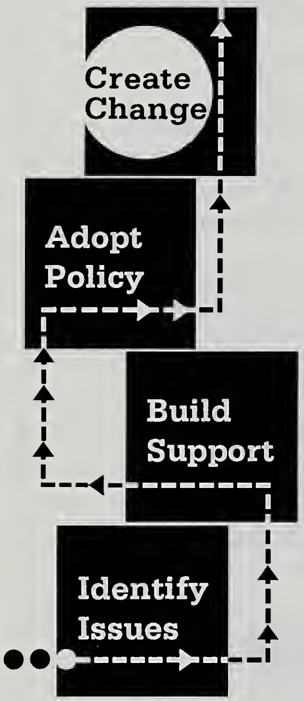

The OMSS is a powerful voice, advocate, and resource for empowering hospital and other health care entity medical staffs. The OMSS meets twice year to:

- **Identify issues** of critical importance to medical staffs, such as on-call emergency coverage and EMTALA guidelines, scope of practice, "exclusive credentialing," HCFA regulations, and medical errors;
- **Build support** for these issues through educational programs, special issue forums, state and regional caucuses, reference committee hearings, the OMSS Assembly, and the AMA House of Delegates; and
- Persuade the AMA to **adopt policy** that will further the needs and concerns of medical staffs; so as to
- **Create change** at various levels within the public and private sector in an effort to improve the quality and delivery of medical care and the professional and personal success of physicians

Elect a member of your medical staff to serve as an OMSS representative* and attend the **2000 Annual AMA OMSS Assembly Meeting**. Topics for educational programs include:

- communication basics, team building and problem-solving
- on-call emergency coverage and EMTALA compliance
- scope of practice
- medical staff bylaws and the changing environment
- building "win-win" relationships between medical staffs and hospital/IDS administration
- status of legislative initiatives
- medical errors
- the impact of MCO insolvency on physician practice

For more information on how to register, call 800 262-3211 and ask for the Department of Organized Medical Staff Services or e-mail us at **omss@ama-assn.org**

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From the Executive Director's Office

CALL

ANNUAL MEETING OF THE HOUSE OF DELEGATES

10 MAY 2000

The Annual Meeting of the House of Delegates will be held at the Ramada Inn, 275 Research Parkway, Meriden. The meeting will commence at 12:30 P.M. on Wednesday, 10 May 2000 and will continue until all business has been concluded.

Stephen R. Katz, M.D., President
Howard J. Wetstone, M.D., Speaker of the House
Brian Van Linda, M.D., Secretary

11:30 Registration of Delegates
Luncheon

12:30 Call to Order

Adjournment at Conclusion of Business
Reception for the Incoming President

* * *

INTRODUCTION OF RESOLUTIONS

Article V, Section 12, Par. 3 of the Bylaws of the Society provides that:

Resolutions may be introduced by any Active, Life Member, Student Member or Postgraduate Physician Member of The Society, in compliance with the following provisions.

a. *All resolutions, reports and similar items of business submitted in writing and received at the office of the Executive Director not later than thirty days before the date scheduled for that meeting shall be considered as regular business of the House of Delegates.*

b. *Component county associations or the Student Member or Postgraduate Physician Member Associations whose meetings are held later than thirty-five days prior to the date of the House of Delegates shall be allowed five days after the close of such meeting in which to submit resolutions, reports and similar items of business to the Executive Director's office and still have such material considered as regular business. In no event, however, may such resolutions, etc., be considered regular business if they are received later than fifteen days prior to the date of the meeting.*

c. *Reports, recommendations, resolutions or other new business may be presented to the House of Delegates by the Council of the Society at any time and shall be considered as regular business.*

d. *Any business which does not qualify as regular business in accordance with the foregoing provisions may be accepted for consideration by a majority vote of the delegates present and shall be referred at once by the Speaker to a reference committee. When business is introduced under the provisions of this paragraph the vote shall be taken without debate, except that the introducer shall be allowed not more than two minutes to explain why it should be considered as regular business.*

* * *

The Connecticut State Medical Society

COUNCIL MEETING

Thursday, 17 February 2000

Attendance

In addition to the chair, Dr. Hollister, were Drs. Beck, Bigos, Conant, Deren, Eslami, Franklin, Geary, Katz, Maloney, Mansourian, Montegut, Scarpa, Timmerman, Van Linda, and Wetstone.

Also present were Mr. Norbeck, Ms. Lindquist, Mr. Brunell, Ms. Morelli, Ms. Norbeck, Ms. Schaffman, Mr. Staples, Mr. Sullivan (all CSMS staff), Laura Phillips (FCMA staff), Mr. Fiorentino (HCMA and NHCMA staff), Mr. A. Schuman, Mr. M. Schuman (NLCMA, WCMA, MCMA, TCMA staff), Dr. Thompson, Mr. Lalime, CSMS-IPA, Dr. Sureddi, President, NHCMA, and Dr. Middleton, President, WCMA.

Absent were Drs. Ahamed, Aleali, Brooks, C. Czarsty, Galvin, Geist, Handelman, Herzog, Keating, Maloney, Mansourian, Redmond, Sadowski, Schwartz, Sosa, Sridhar, Tesoro, Turner, and Wong.

Reports

CSMS-IPA: Ken Lalime reported that the IPA negotiating team was in the final stretch of negotiations with PHS and did not see anything to hinder final resolution of outstanding issues. The IPA Board of Directors has been meeting on a regular basis and the information which has been brought to the Council has not changed due to the nature of the negotiations. He stated they were optimistic as to the outcome.

Report of the President

Dr. Katz reported on the following issues:

Dr. Katz reviewed the House of Delegates meeting held on 17 November 1999. He stated that at a meeting of presidents, presidents-elect, and executive directors of county associations, it was agreed that the county associations will get their resolutions into the CSMS office no later than 30 days prior to the House meeting. This way the scope of work will be known well in advance and the resolutions can be distributed evenly between two reference committees. There was an interruption at the last House of Delegates meeting due to the delayed arrival of the guest speaker, which changed the order of business and caused a delay in the hearings of the reference committees and a hiatus which delayed the conclusion of the meeting. At the 17 November meeting, some awards were made during luncheon; it was proposed to continue this procedure and also to add other items to be carried out properly during luncheon.

It was also mentioned that at the meeting held with the officers and executive directors of the county associations, there was an opportunity to hold an in-depth discussion about the CSMS-IPA with Ken Lalime and David Thompson, M.D. It was agreed that the next meeting would focus on CMIC, at a mutually convenient date.

Dr. Katz reported on two meetings as follows:

(a) Luncheon meeting with Congresswoman Nancy Johnson and her aides. Present were Drs. Timmerman, Herzog, Keating, Wetstone, and Tim Norbeck. There was a full discussion about the Norwood-Dingell Bill, the Campbell Bill, and other national legislative issues. Mrs. Johnson appeared to be quite satisfied with the meeting, and we agreed to be readily available to her in the future for any assistance that she might need in making decisions regarding health care legislation.

(b) On 9 February Dr. Katz and Drs. Timmerman, Genel, O'Brien, and Mag Morelli held a dinner meeting with Natureopaths at their request. This was in the nature of a "get acquainted" meeting.

It was reported that 1 April 2000 has, by a populist movement, been declared "Rescue Health Care Day." The basic concept is for patients and physicians to use that day to protest the way that managed care has been going. This creates an opportunity for all physicians to make their patients aware of some of the problems that corporate managed care has created for them and their practices. Dr. Katz suggested that the Council authorize the production of a booklet suitable for distribution in doctors' offices on the subject of managed care in time for that date, if not a booklet, perhaps a poster for all physicians to hang in their offices notifying the patients and inviting their inquiries about managed care. It was decided that Dr. Katz, the President and Sue Schaffman, CSMS Director of Public Affairs, research this issue and if not appropriate refrain from producing such material. *N.B.: It was learned that CSMS already had such a brochure, and that its availability would be published in the CSMS newsletter.*

Report of the Executive Director

Mr. Norbeck reported on the following items:

1. The latest on the Norwood/Dingell Bill (HR2723) is that Republicans are showing signs of understanding how important patients' rights legislation is to the November election. House Majority Leader, Dick Armey, stated a few weeks ago at a health forum that Congress will pass such legislation this spring and send it to President Clinton by 23 April. He wants to restrict the right-to-sue provision to federal courts only, where juries are less likely to award huge damages. The chances are very good for Norwood/Dingell Bill in some form and some type of legal accountability thrust on HMOs. The conferees will meet the week of 28 February.
2. The Campbell bill HR1304, which will allow physicians legally to negotiate with health plans, currently has 190 sponsors and will be marked up in Judiciary next month and go to the House floor. Two hundred-eighteen votes are needed for passage and there is a good chance that they will get them. Passage in the Senate this year will be almost impossible, but House approval would be a great start.
3. There is more at stake this election year than the usual races plus the Presidency. Every 10 years there is a census according to the Constitution, so that each Representative in Congress can represent the same amount of constituents. Over the past five years, Connecticut has grown only about 5,000, while other states such as Texas, California, Nevada, Florida, and Arizona have grown immensely. The bottom line is that Connecticut will lose one of six Representatives by 2002. If all incumbents run in 2002, then Jim Maloney, in the fifth district will probably run against Nancy Johnson in the sixth district. Redistricting will occur after the November election by the majority party in the legislature, another reason the state senate race will be bitterly contested this year, since the Democrats have only the narrowest of margins, 19–17.
4. Harvard Pilgrim H.C., the largest health insurer in Massachusetts, is now in receivership. Three of its largest four plans are in the red; a state bailout is possible. Some analysts are trying to blame their insolvency on the fact that they are nonprofit insurers. They say: "When you have competitors that are all nonprofits, there is no one with a strong pricing backbone; you can all underprice." They are also trying to suggest that physicians "may not be the best board members; that good doctors have a tendency toward quick action and analysis."
5. We have had the opportunity to address the University of Connecticut medical students on all the health issues. At the request of the Connecticut Dental Association, a presentation was made to that group on CSMS activities relative to the AETNA "all products" clause. There was a good free-wheeling discussion. The Connecticut State Dental Association was most appreciative and, in fact, sent the entire Council a letter of thanks for my presentation.
6. A new KPMG Peat Marwick survey indicated that three out of four (73%) of the employees at Fortune 1000 companies would prefer a voucher from their company so they could purchase their own health insurance. Forty-six percent of the employers are interested in pursing the defined contribution approach to funding health care plans for their employees and would be willing to implement the new plan within one year as long as there was not an adverse tax impact to the company. Only 40% of employers thought their employees would be interested in choosing their own plan, so the 73% figure was a surprise to them.

Report on AMA Interim Meeting

In the absence of Dr. Sadowski, Chair of the AMA delegation, Dr. Mehdi Eslami reported for the delegation. He mentioned that two delegates, Dr. Joseph Czarsty and Dr. Jerome Bobruff, who had served with distinction on the delegation for many years, had retired from the delegation. He asked the Council to express a debt of gratitude to these two men and it was so VOTED.

Dr. Eslami reported that the interim meeting of the AMA was held in San Diego, 5–9 December 1999. He discussed the following:

1. The role of medical students in various phases of medical care.
2. Tele-communications and Tele-consultants. It is the AMA's position that physicians that are involved in Tele-consultations should be paid the same fee as a regular consultation.
3. Performance of diagnostic x-rays by nurses without supervision of a physician. The AMA is opposed to this action.
4. Guidelines for reporting and registering medical incidents: The AMA would like a national organization called "Patient Safety Commission" to study the government's report on this issue.
5. In-flight medical emergency kits available to flight attendants in case of need. There should be some sort of communication with ground medical personnel available.

Dr. Hollister reported that the AMA is now studying the impact of medical staff policy restricting entry of new physicians in the community. He stated that the prohibition and fight against E&M guidelines continues. There was opposition to including a resident in the National Practitioners Data Bank because of possible liability. There was a discussion on the use of ultrasound and that appropriately trained physicians other than radiologists should be able to read ultrasound tests.

Prescriptive Authority

Dr. Katz reported that there is a movement by pharmacists and some physicians to grant some prescriptive authority to pharmacists in the state. The Committee on State Legislation is not backing it or actively opposing the issue. It was VOTED to renew opposition to pharmacists having prescriptive authority.

American Medical Accreditation Program (AMAP)

Michele Norbeck reported that in an effort to ensure AMAP's continue viability, the AMA over the past six months has studied multiple options, including exploration of several partnerships aimed at enhancing the cost-effectiveness of AMAP's operational structure and facilitating coordination of standard-setting within the profession. At the Board of Trustees' recent February planning meeting, trustees received a thorough assessment of AMAP from a nationally known consulting firm hired by the AMA for its expertise in the collection and management of health care information and databases across all sections of the health care industry.

The assessment concluded that the business plan developed for AMAP was based on a market and environment that has changed dramatically. Following this assessment, the AMA Board concluded that it was necessary to discontinue the accreditation of physicians through AMAP. This decision was not reached easily and only after it was determined that no options proved feasible or cost-effective.

Ms. Norbeck noted that the AMA will work with their current vendors, customers, and partners to honor existing AMA commitments within the context of the Board's decision.

AMA Organized Medical Staff Section (OMSS)

Dr. Deren reported that the OMSS is doing well and it is trying to reorganize. The governing body was asked to come back with a report for reorganization, and they came back with a report that was not acceptable and not responsive to what the grassroots are doing. He stated that this was his 10th year. Connecticut often has more delegates present than Massachusetts. Dr. Deren will be running for the governing council on membership-at-large and would appreciate the endorsement of the Connecticut State Medical Society. Dr. Deren received the endorsement of the Society.

Resolutions Referred From House of Delegates 19 November 1999

Resolution: Definition of Surgery.—The House referred a resolution on "Definition of Surgery" to the Council for development and adoption and transmittal to the Legislative Committee before the next legislative session. The following resolution was adopted:

"Surgery means any procedure in which human living tissue is cut or permanently altered by mechanical or energy forms, including but not limited to electrical or laser energy or ionizing radiation, or any procedure that invades the body or body cavities for therapeutic, cosmetic, or diagnostic purposes."

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Resolution: Specialty Society Representation in House of Delegates.—A resolution to amend the CSMS Bylaws to provide for specialty representation in the House of Delegates was referred to the Council to be redrafted and provide for one delegate and one alternate from each CSMS specialty section, and to invite other specialty groups that might wish to participate in the House of Delegates to apply for specialty section status.

The Council VOTED to adopt the following changes in the Bylaws: [Additions underlined, deletions ~~struckthru~~.]

Article V.—House of Delegates, Section 2. Composition

Amend by adding (e) delegates elected by CSMS Specialty Groups

Article V-House of Delegates, Section 4. Apportionment

Add new Par. 3—Each CSMS Specialty Section shall be entitled to send from its membership to the House of Delegates each year, one delegate and one alternate delegate.

Article V, Section 5. Registration

Par. 1.—Certification. Before every session of the House of Delegates, each component association and each Specialty Section shall deposit with the Secretary of the State Society a certificate or list signed by the president or secretary of the component association or the Executive Director of the Society, listing members entitled to be seated in the House of Delegates on the basis of regular election, appointment or ex-officio status.

Article VIII-CSMS Specialty Sections. Section 1, Specialty Sections

Amend Paragraph 1 (b) as follows: (material lined is deleted, new material underlined)

Specialty Sections of the Society may be created or discontinued by the House of Delegates in accordance with Article V, Section 1 of these Bylaws. Any ~~group of physician members of the Society having a common interest in a recognized branch of medicine~~ Connecticut specialty societies—whose national organizations are entitled to representation in the AMA House of Delegates may, through application filed with the Council, petition the House of Delegates for authorization to form a Section in that recognized branch of medicine.

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Resolution: Health insurers to have their contracts with caregivers begin and end on a specific date and no changes be introduced during the dates so specified unless agreed upon by both parties.

Resolved, that the Connecticut State Medical Society seek legislation, or an administrative regulation, requiring that each health insurer contract with caregivers for an annual period during which time period the significant terms may not be altered unilaterally so that the health insurance provider directory from which patients select physicians be accurate for a defined period of time, thereby preventing potentially dangerous disruption of a patient's care.

The following staff recommendations were discussed and accepted:

1. Requiring annual contracts would also restrict the physician's contracting options. It might also provide the insurers with an excuse to prevent a physician from entering a plan during the annual period. The question arises whether a mandated provider contract term is needed or is in the best interest of the physician.
2. The current CSMS legislative initiative to ensure contract fairness calls for a prohibition of unilateral changes during the term of the contract—for many reasons and not just for the purpose of accurate provider directories. It was stated that no action is needed, as this is a part of the CSMS Legislative Agenda for 2000. This issue has also been brought to the attention of the Attorney General in formal complaints and the ad campaign regarding Aetna/US Healthcare.
3. The current state law requires managed care organizations to provide each enrollee with an an annual listing of providers available under the provisions of the enrollee's enrollment agreement and notification upon the termination or withdrawal of the enrollee's primary care physician. During a meeting with the Insurance Commissioner and the HMO Association, CSMS expressed concern about the issue of inaccurate provider directories and requested information on any complaints regarding the accuracy of the directories. The HMOs reported they are working to keep the directories updated and many are placing the directories on line.

End-of-Life Care

Dr. Scarpa reported that programs on this issue are being held in some hospitals and that the Connecticut Hospital Association Health Care Ethics Resource Center and the Connecticut Coalition to Improve "End-of-Life Care" are sponsoring a program entitled "Education for Physicians on End-of-Life Care" on 23–24 February 2000. The program is a train-the-trainer session based on the curriculum developed by the AMA. The individuals attending will then be responsible for implementing a program within their own institutions. Dr. Scarpa stated that he believed that CSMS should keep abreast of this program and that he would keep the Council posted on this issue.

County Reports

At the direction of the Council, county presidents were invited to attend the Council meeting as (nonvoting) guests.

Dr. Charles Middleton, President of Windham County Medical Association, Dr. Francis Scarpa, President of the Fairfield County Medical Association, and Dr. Prasad Sureddi, President of the New Haven County Medical Association, reported on the various activities taking place in their respective counties. Dr. Albert Hebert, Jr., President of Tolland County Medical Association, who was unable to attend the meeting submitted a brief report on TCMA activities.

Connecticut Medical Insurance Company (CMIC)

A communication was received from CMIC informing CSMS that at a Board of Directors meeting on 14 February the following slate of nominees was approved for election by the membership in May 2000:

Kirana Kefalos, M.D., New Haven County

Neil Klein, M.D., Fairfield County

Robert Linden, M.D., New London County

Stephen O'Brien, M.D., Hartford County

Brian Van Linda, M.D., Hartford County

It was VOTED to accept this communication as information.

Legislative Report

Mag Morelli, Director of Government Affairs, gave an update on legislative activities in which CSMS was involved. She stated it was a short session and everything was happening all at once, public hearings going on, bills being raised, etc. She discussed the status of the following issues that are on the CSMS legislative agenda:

1. Restore Medicaid funding for the dual-eligible Medicaid patients.
2. Oppose Certificate-of-Need for physician office surgery.
3. Support a statutory definition of surgery.
4. Seek additional managed care reforms.
5. Seek Workers' Compensation Medical Care Plans Reform.
6. Seek accreditation requirements for physician surgical facilities in accordance with the position of the CSMS Task Force on Office Surgery.
7. Seek a State Action Doctrine to protect specific collective physician activity from federal anti-trust law.
8. Seek a reduction in the active and retired physician licensure fees.
9. Modify the APRN law to eliminate the unintended malpractice insurance requirement for nurse anesthetists.

University of Connecticut Health Center

The question was raised as to how the John Dempsey Hospital issue might affect the medical school. Dr. Katz reported that CSMS is supporting four students in a scholarship program and that the University of Connecticut Medical School is beneficial to Connecticut students and gives them an opportunity to attend medical school that they may otherwise not be able to achieve, due to cost. He stated that the John Dempsey Hospital contributes to their training and education by this linkage. Dr. Katz believed that the CSMS position should be that we support the school and not become involved in the finances of the hospital.

Dates of Future Meetings

Annual Meeting—House of Delegates
Wednesday, 10 May 2000

Semi-Annual Meeting—House of Delegates
Wednesday, 15 November 2000

BOOK REVIEW

Care of the Psyche,
A History of Psychological Healing
by Stanley W. Jackson, M.D.
Yale University Press, New Haven, Connecticut, 1999.
504 pp. $45.00. ISBN 0-300-0767-1

This reviewer joins what will almost certainly be a chorus of praise for Stanley W. Jackson's *Care of the Psyche, A History of Psychological Healing*. This scholarly work is more than an account of the development of what we now call psychotherapy, and it should enjoy a broad audience. In addition to medical traditions the author considers philosophical, religious and social themes, and he reminds us that for centuries psychological interventions (those within as well as outside medicine) were more common than physical treatments for disease. Further illustrating the scope of the book, Dr. Jackson notes that long before the 19th-century designation "psychiatrist" (psyche=soul, iatros=healer), philosophers were referred to as "physicians of the soul," and ministers (priests and other clerics) sought to "cure the soul" through pastoral care. Dr. Jackson emphasizes the healer-sufferer relationship and its role in general medicine as well as in mental health. The book is organized as a series of discussions of the "basic elements" of psychological healing, elements that are essential in all healer-sufferer relationships and that all methods of psychological healing have in common. His lucid discussion of the long history of these methods and how they have been applied in various contexts and combinations makes this book a noteworthy contribution to the history of medicine and tells an interesting story of how we have come to our current views about the relief of suffering.

Dr. Jackson's basic elements are presented as the "shared ingredients" of the various treatments for psychological ailments, the differences among most methods being the ways in which "a relatively small number of ingredients" have been combined and applied. These elements are the healer-sufferer relationship, practices that serve to "get things out" (such as confession and catharsis), consolation and comforting, the use of imagination and the passions, various techniques to influence the patient directly (hypnosis, conditioning), and those approaches most associated with 20th-century psychotherapies: interpretation, self-understanding, insight and introspection. For each of the elements the author traces its use over time, beginning in each case with ancient Greece, and relates earlier practices to current therapeutics. In contemporary medicine, for example, physicians seek to comfort and console as well as cure. When patients confide in the physician, often revealing more than the details of their physical complaints, they present an opportunity to correct misperceptions and self-blame, instill hope and provide guidance. Even insight and interpretation, usually thought of as the province of psychoanalytically-oriented psychotherapy, can be part of the general physician's interaction with patients.

Of note for prospective readers is that the discussions of some of these basic elements are interesting topics apart from their ties to the history of medicine, and these sections of the book can be fully appreciated as independent articles. As a teacher of psychiatric residents I found certain chapters, such as those on insight and interpretation, richer resources than others (the review of hypnosis and mesmerism, for example), but this reservation is a minor one. Dr. Jackson's approach is consistent throughout, his concepts crisply and clearly presented, and the general theme never lost. His book can be enjoyed by virtually anyone and will be found academically valuable by a wide range of professionals. This work will serve as a useful reference, a study guide, a textbook for students of history and of the mental health disciplines, and an enjoyable read for anyone broadly interested in how mankind has come to view those who suffer and those who heal.

John W. Goethe, M.D.
Institute of Living, Hartford

IN MEMORIAM

BARESE, ANGELO M., Facolta di Medicina e Chiurgia dell'Universita di Napoli, Italy, 1935. Dr. Barese was a retired anesthesiologist. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Barese died in May 1999 at the age of 91.

CERRITELLI, DOMINICK H., JR., New York Medical College, 1962. Dr. Cerritelli practiced obstetrics and gynecology in Middletown for 31 years. He served on the staff at Middlesex Hospital where he had served as chairman of the Medical Education Committee and interim chairman of the Department of Obstetrics and Gynecology. He was a member of the Middlesex County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Cerritelli died 23 February 2000 at the age of 62.

COLEY, MARY S., Harvard Medical School, 1954. Dr. Coley practiced pediatrics in West Hartford for many years prior to returning to school to receive her psychiatric training. She maintained a psychiatric practice in West Hartford. In the late 1960's, Dr. Coley was selected to be a consultant for the Head Start program in Connecticut. She was among 600 physicians named to evaluate medical implications of Head Start applications. She was on the staff of the former Newington Children's Hospital and Hartford Hospital and also served with several neighborhood health care clinics in Hartford. Dr. Coley was a member of the Hartford County Medical Association where she served as an alternate delegate to the Connecticut State Medical Society, the Connecticut State Medical Society, and the American Medical Association. Dr. Coley died 14 March 2000 at the age of 73.

DELGREGO, ARTHUR L., George Washington University School of Medicine, 1930. Prior to his retirement, Dr. Delgrego practiced radiology in the greater New Haven area. He was a member of the New Haven County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Delgrego died 17 February 2000 at the age of 95.

DiFRANCESCO, JOHN G., St. Louis University School of Medicine, 1942. Dr. DiFrancesco retired from the practice of ophthalmology in 1982. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. DiFrancesco died 2 February 2000 at the age of 82.

FRIEND, HUGH B., Queen's University Faculty of Medicine, Ontario, 1959. Dr. Friend practiced medicine in Hartford and was a member of the staff at Hartford Hospital since 1963. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Friend died 23 February 2000 at the age of 70.

HOROWITZ, ISAAC, Medizinische Fakultät der Universität Vienna, Austria, 1937. Dr. Horowitz practiced radiology in the Bridgeport area for more than 50 years. For many years he worked for the Veterans Affairs Hospital in West Haven and was the Chief of Radiology at Park City Hospital. He was the founder of radiation services at Park City Hospital and served as the first chairman of the department of radiology. In 1992, he received the Medical Staff Physician's Award from Park City Hospital for his outstanding contributions to the hospital. Dr. Horowitz was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Horowitz died 26 January 2000 at the age of 87.

LORD, BENJAMIN JR., Cornell University Medical College, 1943. Dr. Lord, a retired president of the medical staff and president of the medical board at The William W. Backus Hospital, practiced medicine in Norwich until 1986. Subsequent to that, he served as acting medical director of Uncas on Thames Hospital, serving until 1990. He also served as medical director of Hospice of Norwich. Dr. Lord established and headed the continuing medical education program at The William W. Backus Hospital in conjunction with Yale University from 1958 to 1975. He had previously served as chief of medicine. He was a member of the New London County Medical Association where he received the Distinguished Physician Award in 1990, the Connecticut State Medical Society where he served on the Editorial Committee of Connecticut Medicine from 1973 to 1975, and the American Medical Association. Dr. Lord died 11 February 2000 at the age of 82.

LUBY, MEADE J., New York University School of Medicine, 1958. Dr. Luby practiced orthopaedic surgery in Hartford from 1955 to 1978. He served on the staff of St. Francis Hospital and the courtesy staff of other local hospitals. In 1978, Dr. Luby relocated to South Carolina and continued to practice orthopaedics. He served as Chief Consultant in Orthopaedics at Beaufort Naval Hospital for more than 20 years. While in Connecticut, he was a member of the Hartford County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Luby died 13 March 2000 at the age of 74.

RICCA, RENATO A., University of Pennsylvania School of Medicine, 1940. Dr. Ricca began his medical career as a general practitioner in Glastonbury, later completing a residency in neurology at Columbia Presbyterian Hospital. The remainder of his medical career was spent practicing neurology in Hartford. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Ricca died 4 February 2000 at the age of 88.

SULLIVAN, JOHN L., Yale University School of Medicine, 1951. Dr. Sullivan practiced medicine in Bridgeport for 48 years. He was a past president of the Medical Staff at Bridgeport Hospital. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Sullivan died 10 February 2000 at the age of 80.

WOLLACK, ANNA C., University of Pennsylvania School of Medicine, 1950. Dr. Wollack was the co-founder of the Saybrook Convalescent Hospital in Old Saybrook where she continued to serve as medical director and on the board of directors. Prior to that, she had a general practice in Deep River. She was a member of the Middlesex County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Wollack died 19 January 2000 at the age of 85.

MARK YOUR CALENDAR

Connecticut State Medical Society

Annual Meeting—House of Delegates

10 May 2000

11:30 a.m.—Registration and Luncheon

12:30 p.m.—Call to Order

Ramada Inn, 275 Research Parkway, Meriden

Plan Now to Save the Date

CSMS PHYSICIAN PLACEMENT SERVICE

The Society maintains the Physician Placement Service as a *free* service to the medical profession, hospitals, and communities in Connecticut.

***Opportunities* should be typed, double-spaced copy on letterhead and submitted to CSMS, Physician Placement Service, 160 St. Ronan Street, New Haven, CT 06511 (203) 865-0587 or fax to (203) 865-4997. These will be published as space permits and will be distributed to physicians inquiring about such *opportunities*.**

***Physicians wishing to locate* in Connecticut may call the office requesting opportunities in their specialty. Also, candidates are invited to submit a resume to be kept on file with the Society. An announcement of a physician's availability will be published in two issues of *Connecticut Medicine* as space permits.**

Listing of physicians in the Placement Service does not in any way represent certification by the Society. Investigation of credentials and experience is the responsibility of those seeking applicants for positions.

Announcements on the Physician Placement Service page under Classified Advertising are charged at the regular Classified Advertising rate.

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Well-established family medicine physician seeks an associate, BC/BE in family practice or internal medicine for a thriving and very successful practice in southern Connecticut. Individual will have the future opportunity to assume the practice. Interested parties should send their CV to: Bernard Sherlip, M.D., 4775 Main St., Bridgeport, CT 06606. The position is available immediately.

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Cardiomed of Connecticut, L.L.C.—Excellent opportunity for BC/BE cardiologist and BC/BE internist for large practice in Fairfield County. Competitive salary, benefits, and possibility of partnership. Call (203) 371-5189 or fax (203) 372-6365.

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Internist wanted for part-time postition in active West Hartford office practice. Excellent growth potential. Please send CV to: William Pickering, M.D., 1064 Farmington Ave., West Hartford, CT 06107.

University physician, Eastern Connecticut State University, 25 hours per week, 10 months per year. Please submit CV to: D. Phillips, ECSU, 83 Windham St., Willimantic, CT 06226.

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Macintosh Quadra 950 8 CPU, with Apple extended keyboard II, 4GB and 2GB hard drives, Apple CD 300i internal drive, 72 MB ram, Spectrum 24 series 4 card. Agfa Arcus Plus color scanner. Asking $400. Call (203) 865-0587 ext. 113 for additional information.

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Seeking CT-licensed Internists to provide night, weekend, and holiday coverage. Recent, acute inpatient care experience and ACLS training required. We offer a competitive hourly rate with shift differentials for weekend and holidays, flexible coverage schedule, and a friendly environment that focuses on high-quality patient care.

If you are interested in working in an exceptionally supportive and congenial environment, please apply in person at our Application Center, Monday-Friday, 8:30am to 4:00pm; or forward your resume to: Hospital for Special Care, Employee Development Services, 2150 Corbin Avenue, New Britain, CT 06053. FAX #: (860) 827-4848. If interested in any other opportunities currently available, please call our Job-line at (860) 827-4703. Visit our web site at: www.hfsc.org EOE M/F/D/V.

Hospital *for* *Special* Care

We Rebuild Lives.

"Reinvention of Health Care"
a program sponsored by
Yale Division of Health Policy and Admistration
2 June 2000
Water's Edge—Westbrook, Connecticut

Workshop—Reinventing Healthcare
8:15 am Registration and Continental Breakfast
9 am Welcome—William White, Ph.D., Head, Yale University Health Management Program
9:15–10:30 Reinventing Health Care
Moderator – Henry G. Dove, Ph.D.
Panelists: Karen A. Coughlin, M.A., B.S.N., President & CEO, Foundation Health Systems, Eastern Division
William L. Kissick, M.D., Dr.PH, Professor, Health Care Systems, Wharton School, Univ. of Pennsylvania
Donald Timmerman, M.D. President, Connecticut State Medical Society
Bruce I. Taylor, C.L.U., M.B.A., Director, National Healthcare Policy and Plans, GTE Corporation
Gail Wilensky, Ph.D., Chair, Medicare Payment Advisory Commission
10:30–10:45 Break
10:45–11:45 Open Discussion
12-2 Luncheon (Optional)
Keynote Address: Gail Wilensky, Ph.D.
Contact Info: Workshop 9–12 noon—$90.00
Lunch 12–2pm—$30.00

Make check payable to: Association. of Yale Alumni in Public Health
Return with payment to: Dawn Carroll, Yale University School of Public Health, Office of Community and Alumni Affairs, Post Office Box 208034, New Haven, CT 06520—By May 1, 2000
Interested in: CME's ____; CEU's ______.
Questions? E-mail Dawn.Carroll@Yale.edu phone: (203) 785-6245 fax: (203) 785-4989

Consumer Concern or Complaint Form
Regarding Group or Individual Health Insurance
Including Managed Care Plans

To Be Submitted To
THE CONNECTICUT DEPARTMENT OF INSURANCE
CONSUMER AFFAIRS DIVISION
P.O. BOX 816
HARTFORD, CT 06142-0816

Phone: (860) 297-3900 or 1-800-203-3447 Fax: (860) 297-3872

The Consumer Affairs Division of the Department of Insurance receives, reviews, and responds to complaints and inquiries from state residents concerning insurance related problems. The staff examines each complaint to determine whether statutory requirements and contractual obligations within the commissioner's jurisdiction have been fulfilled. The Consumer Affairs Division coordinates the resources available within the Department to address consumer complaints.

In order for the Division to pursue a formal review of a concern or complaint, the consumer must submit a written explanation to the address listed above with as much pertinent detail as possible. Each written submission to the Consumer Affairs Division will be acknowledged.

Name of person filing the concern or complaint:

____

Address: ____

Phone where the Department can contact you: (_____) ______________________________

_

This concern or complaint concerns the following Insurance Company or Managed Care Plan: ______________________________

Policy Number: ______________________________

Name of Policyholder: ______________________________

Name of Enrollee: ______________________________

Name of Patient: ______________________________

Patient is ___ **self** ___ **dependent** ___**other** (explain)______________________________

The following is a detailed description of the concern or complaint:

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Connecticut Medicine

The Journal of the Connecticut State Medical Society

VOLUME 64 MAY 2000 NUMBER 5

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Connecticut Medicine

Vol. 64, No. 5 *The Journal of the Connecticut State Medical Society* **May 2000**
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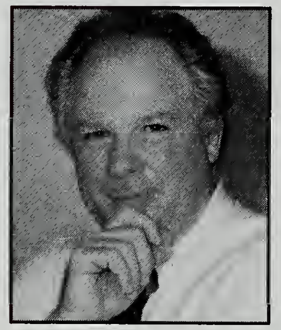

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Concurrent Factor V Leiden and Prothrombin G20210A Gene Mutations in a Patient with a History of Recurrent Thrombosis

BELA MANDAVILLI, M.D., RICHARD M. SHOUP, M.D., JOSEPH A. DiGIUSEPPE, M.D., WILLIAM N. REZUKE, M.D., AND GREGORY J. TSONGALIS, Ph.D.

ABSTRACT—We report a case of a 35-year-old male with a history of recurrent thromboembolic events, who presented to the emergency room with right sided weakness and difficulty with speech. The patient's past medical history included two myocardial infarctions, two deep vein thromboses, and a pulmonary embolism. Subsequent laboratory evaluation indicated that the patient was heterozygous for both the factor V Leiden and prothrombin G20210A mutations. This case report emphasizes the importance of evaluating patients with suspected hereditary thrombophilia for both of these mutations.

Introduction

FACTOR V Leiden and prothrombin gene mutations occur with a frequency of approximately 3% to 5% and 2% to 3% in the general population, respectively. These mutations are the two most common genetic abnormalities associated with hereditary thrombophilia. The prothrombin G20210A gene mutation has been associated with higher plasma prothrombin levels with a resultant increased venous thrombotic tendency.[1] Similarly, the factor V gene mutation results in resistance of activated factor V to degradation by activated protein C and increased risk of thrombosis.[2]

Because of their high prevalence, these genetic alterations may coexist with other conditions associated with hypercoagulability, such as hyperhomocysteinemia and antiphospholipid antibody syndromes.[3] The concurrence of such disorders may result in an additive risk for thrombosis. In addition, there is a significantly increased thrombotic risk when these mutations are present in patients with other risk factors including smoking, major surgery, trauma, immobilization, or high estrogen states associated with oral contraceptive use and pregnancy.[2–5]

Case Report

A 35-year-old white male smoker with a history of non-insulin dependent diabetes mellitus visited the emergency room with complaint of difficulty with speech and right-sided weakness. He has been regularly followed by a cardiologist for coronary artery disease and two previous myocardial infarctions (MI) at the age of 32 and 34 years, for which he underwent angioplasty and stent placement therapy. The patient also has a history of two previous deep vein thromboses (DVT), as well as pulmonary embolus after the angioplasty procedure which revealed severe disease in the left circumflex and an 80% ulcerated stenosis in the proximal right coronary artery. This along with the neurologic opinion of small vessel disease led to a conclusion that his MIs and CVA were both due to primary ischemia and not thrombosis. Since then he had been on coumadin therapy. Other medication history included an H2-blocker, oral sulfonylurea (glyburide), and beta 1 blocker (lopressor).

Emergency room evaluations revealed a negative brain CT scan and the patient was admitted to the hospital. On neurologic examination, his speech was slightly slurred and he was noted to be leaning to the right. The remainder

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BELA MANDAVILLI, M.D., Department of Pathology and Laboratory Medicine, Hartford Hospital, Hartford; RICHARD M. SHOUP, M.D., Department of Medicine, Manchester Memorial Hospital, Manchester; JOSEPH A. DiGIUSEPPE, M.D., Ph.D., Department of Pathology and Laboratory Medicine, Hartford Hospital, Hartford; WILLIAM N. REZUKE, M.D., Department of Pathology and Laboratory Medicine, Hartford Hospital, Hartford; GREGORY J. TSONGALIS, Ph.D., Department of Pathology and Laboratory Medicine, Hartford Hospital, Hartford.

of the physical examination was unremarkable. Laboratory studies included the following: normal CBC; aPTT–33 seconds, PT–16.9 seconds with an INR of 2.7; CK–87 U/L; BUN–10 mmol/L, Creatinine–0.7 mmol/L, glucose-228 mmol/L; liver function tests—normal except for a mildly elevated GGPT; Cholesterol–101 mmol/L; Total CO2–26 mmol/L; anion gap–8.0; and serum LDH-337 U/L. Laboratory tests to evaluate for the possibility of hereditary thrombophilia were ordered including molecular genetic assays for Factor V Leiden and prothrombin (Factor II) G20210A mutations.

A peripheral blood sample was collected in ethylenediaminotetracetic acid (EDTA) and sent to our laboratory for analysis of factor V Leiden and prothrombin G20210A gene mutations.[7] DNA was extracted from peripheral blood leukocytes using the Puregene extraction kit (GENTRA, systems, Inc., Minneapolis, Minn.). Isolated genomic DNA was incubated in a reaction mix containing both the forward and reverse gene specific primers and AmpliTaq Gold (Perkin-Elmer, Norwalk, Conn.). The primers used for the factor V Leiden gene 1691 and prothrombin gene 20210 mutations were as follows:

1691G Forward primer, 5'—ACC CAC AGA AAA TGA TGC CCA—3'

1691G Reverse primer, 5'—TGC CCC ATT ATT TAG CCA GGA G—3'

20210G Forward primer, 5'—TCT AGA AAC AGT TGC CTG GC—3'

20210G Reverse primer 5'–ATA GCA CTG GGA GCA TTG AAG C—3'

A multiplex polymerase chain reaction (PCR) was performed using both the prothrombin primers and factor V Leiden primers in a single reaction.[7] PCR amplification was accomplished in the Perkin Elmer 2400 thermocycler. Following amplification, a restriction digestion was performed. Restriction fragment size analysis was performed by visualization of digested PCR products after separation by gel electrophoresis in a 10% polyacrylamide gel and stained with ethidium bromide (Fig. 1).

Discussion / Comment

Although venous thrombosis has been primarily linked to the factor V Leiden and prothrombin gene mutations, recent studies have reported increased risk of myocardial infarction in young patients with other cardiovascular risk factors[4]. The frequency of factor V Leiden and that of prothrombin gene mutation is approximately 3% to 5% and 2% to 3% respectively in the general population. The prevalence of these mutations is increased significantly in patients with a history of thrombosis.

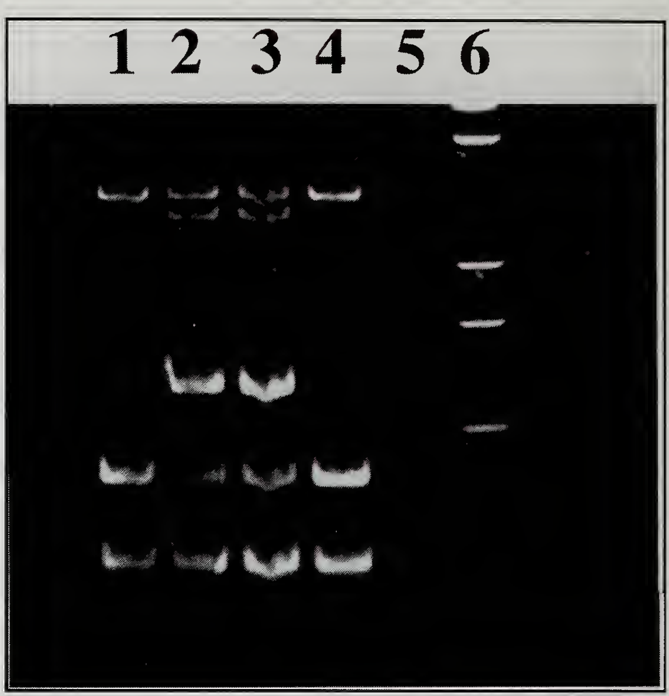

Figure 1. Gel electrophoresis of factor V Leiden (lower bands) and prothombin G20210A (upper bands) restriction fragments. Lane 1, normal patient; Lane 2, double heterozygous patient; Lane 3, double heterozygous control; Lane 4, normal control; Lane 5, blank control; Lane 6, molecular size marker.

The prothrombin gene G20210A is frequently associated with factor V Leiden in thrombophilic patients (approximately 10%) and shows ethnic-specific variation in allele frequency.[3,4] The coexistence of these two prothrombotic genetic variants may increase the clinical expressivity of thrombophilia and thus provide further validation of the "double hit" theory as a mechanism of thrombophilia in younger patients. Identification of one or more hereditary defects in a patient with other cardiovascular, circumstantial, or hormonal risk factors, or other hemostatic defect, will allow accurate prediction of risk of future thrombosis, making the sometimes difficult decision about long-term anticoagulation therapy more rational.

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Eccrine Sweat Gland Carcinoma: A Case Report and Review of Diagnosis and Treatment

IOANNIS A. VOUTSADAKIS, M.D. AND HOWARD W. BRUCKNER, M.D.

ABSTRACT—Carcinomas of the skin appendices are rare neoplasms but for prognostic reasons it is important to differentiate them from the indolent squamous and basal cell carcinomas, as their behavior is more aggressive. We report on a case of eccrine sweat gland carcinoma that displayed all the typical features of those neoplasms. The patient sought medical attention after a lesion in his foot, already present for four years, began to enlarge and developed satellite lesions. The pathological diagnosis was made only after the lesion was initially misdiagnosed as basal cell carcinoma of the skin. Multiple chemotherapeutic regimens and radiation therapy were administered with only temporary benefit. The patient developed distant metastatic disease but survived with metastases for three years. He died nine years after the initial lesion developed in his foot and five years after the diagnosis. The diagnosis of sweat gland carcinomas can be facilitated by histochemical stains. In contrast to squamous and basal cell carcinomas of the skin, these are generally positive for the carcinoembryonic antigen (CEA). Once metastatic, these neoplasms are only infrequently, and usually briefly, responsive to either chemotherapy or radiotherapy and new treatments are urgently needed. Early recognition of the entity may allow more timely treatment.

SWEAT gland carcinomas are rare neoplasms of the skin representing about one in every 20,000 skin malignancies.[1] They are usually slow growing but have potential for recurrence and for distant metastasis. As a result, although the reported five-year survival rate exceeds 60%, many of these patients succumb to metastatic disease.[2] In other cases the disease is already metastatic at presentation even with small primary lesions.[3] We report a case of eccrine sweat gland carcinoma and review the literature on the diagnosis and treatment of this rare malignancy of the skin.

Case Report

A 48-year-old white man presented with multiple left leg nodular skin lesions and left inguinal lymphadenopathy. He had noticed a small lesion in his left foot about four years earlier. The lesion had been unchanged for about three years but had begun to increase in size about one year prior to the presentation. Shortly before presentation other skin lesions appeared up to the knee and lower third of the left thigh as well as left inguinal lymphadenopathy. Biopsy of one of the lesions was initially interpreted as basal cell carcinoma but subsequently the pathologic diagnosis was modified to poorly differentiated sweat gland carcinoma of undefined type. Histochemistry was positive for cytokeratin CAM 5.2, and negative for chromogranin A and neuron specific enolase. Treatment with chemotherapy, initially carboplatin and vinblastin and subsequently bleomycin, had only partial and short-lived effect. About one year after the diagnosis the patient received palliative radiation treatment to the left leg. Subsequently, he was enrolled in an experimental trial of immunotherapy without effect. Two years after the diagnosis he developed thoracic spine metastases and a left pleural effusion, as

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IOANNIS A. VOUTSADAKIS, M.D., Divison of Hematology, Department of Medicine, Mount Sinai Hospital and Mount Sinai School of Medicine, New York; HOWARD W. BRUCKNER, M.D., Divisions of Medical Oncology, Department of Medicine, Mount Sinai Hospital and Mount Sinai School of Medicine, New York.

well as pulmonary masses. He was treated with radiotherapy to the spine and to enlarging left inguinal lymph nodes and afterwards with gemcitabine. The serum Carcinoembryonic Antigen (CEA) level was 51 ng/mL at the time of gemcitabine initiation and fell to 26 three months later while the patient was receiving gemcitabine. Shortly thereafter, the lesions start to enlarge. Combination chemotherapy with methotrexate, 5-FU, leucovorine and hydroxyurea was given for one year with partial response of the lesions and clinical improvement. Subsequently superinfection of the leg lesions with poor healing and chronic fever became important clinical problems. Due to a worsening clinical condition and an increase in the CEA level to 70 ng/mL, the patient was treated with other combination regimens including cisplatin, doxorubicin, taxotere, 5-FU continuous infusion and navelbine. The disease progressed and the patient succumbed to progressive pulmonary disease five years after the diagnosis and about nine years after the initial appearance of the first lesion in his left foot.

Discussion

Sweat glands are of two types having well defined structural and secretion characteristics.[4,5] Eccrine sweat glands are widely distributed over the entire body surface except for the lips and parts of the external genitalia. They function as regulators of body temperature by secreting sweat, a hypotonic solution with neutral or slightly acidic pH. Apocrine sweat glands are present only in the axilla, external genitalia, the areola and nipple. The ceruminous glands of the external ear and the glands of Moll of the eyelid are also modified apocrine glands. Apocrine glands are associated with hair follicles and their lumen is wider than the lumen of eccrine glands.

Malignant tumors of the sweat glands are similarly classified as eccrine carcinoma and apocrine carcinoma. Contrary to the well defined anatomic distribution of the different histologic types of sweat glands, carcinomas developing from them do not respect the anatomic distribution. Apocrine carcinomas have been reported in the scalp, wrist, and epigastric skin, areas where apocrine sweat glands are not physiologically found.[6,7] Eccrine and apocrine carcinomas are malignancies that have a different biologic behavior than squamous and basal cell skin carcinoma. The differentiation between the eccrine and apocrine type carcinoma is at times difficult on biopsy, as the typical histologic characteristics of each are not always displayed. Apocrine tumors tend more often to show decapitation secretion,[6] have PAS-positive diastase-resistant material in the cells or lumina, and have focal or diffuse positivity for gross cystic disease fluid protein 15 (GCDFP-15). Others have observed staining of eccrine glands for GCDFP-15, limiting the value of this protein for the differentiation of the two carcinomas.[8] Eccrine carcinoma usually shows areas of duct formation infiltrating through the dermis or islands of malignant cells.[1,9]

Both types of sweat gland carcinomas stain positive for CEA, a fact that can help differentiate them from other skin carcinomas.[10,11] CEA is a glycoprotein of 200 kd[12] expressed in colorectal carcinomas as well as in a variety of other visceral malignancies. It belongs to the family of immunoglobulin genes along with immunoglobulins, T-cell receptors, and cell adhesion molecules.[13] In contrast to visceral malignancies in which CEA can be detected in blood, the value of CEA in sweat gland carcinomas lies in immunohistochemical staining of the tumor specimen. Sweat gland carcinomas are chromogranin A and neuron specific enolase (NSE) negative, which differentiates them from Merkel cell carcinoma.[14] More recently, staining with the monoclonal antibody IKH-4 was reported to be able to differentiate eccrine carcinomas, which stain positive, from apocrine carcinomas and metastatic adenocarcinomas involving the skin, which stain negative.[15]

The literature describes cases of skin carcinomas that exhibit histologically both squamous and adenoid features. Two distinct groups can be differentiated in those cases.[16–19] The first is comprised of true sweat gland carcinomas with areas of squamous differentiation. They are most often referred to as adenosquamous carcinomas of the skin or squamoid eccrine ductal carcinomas and stain positive for CEA.[16–18] The other group is comprised of squamous carcinomas of the skin in which the adenoid appearance is not due to true gland formation but to acantholytic reaction.[17,18] This category is referred to as adenoid squamous cell carcinoma of skin and tends to behave more aggressively than the common squamous cell carcinoma. Histochemically, adenoid squamous cell carcinomas stain negative for CEA. Associated visceral malignancies have been observed in patients previously diagnosed with adenoid squamous cell carcinoma in 30% of patients in one series.[19]

Four histologic types of eccrine carcinoma are recognized[20]: eccrine porocarcinoma, syringoid eccrine carcinoma, mucinous eccrine carcinoma, and clear cell eccrine carcinoma. Differences in the biologic behavior of these histologic subtypes are minimal.

Differentiation between the eccrine and apocrine carcinomas appears also to be of limited prognostic value as the two types have a similar natural history. They usually are present for several years before diagnosis and have a long course of slow progression followed by sudden episodes of accelerated growth.[2,9] It is not known if this is due to overgrowth of a more malignant clone with accumulated molecular defects. In a series of 16 patients with sweat gland carcinomas, five have been reported to carry p53 mutations.[21] This may be one of the molecular defects leading from adenoma to carcinoma. In the same study the type of mutations (G:C to A:T transitions) was consistent with the possible role of ultraviolet light as a causative agent.

Satellite lesions and lymph node metastases are followed by distant metastases to skin, bone, lungs, and brain. As illustrated by our case, metastases lead to death months or years following their appearance.

Most indolent malignancies have defects in the apoptotic pathways as opposed to the more aggressive ones that have defects in the regulation of the cell cycle, as best illustrated in the case of indolent and aggressive lymphomas.[22] Defects of apoptosis are probably present in both primary and, at least initially, in metastatic sweat gland carcinomas. After additional mutations occur, the metastatic disease may become more aggressive in a scenario analogous to that happening in the Richter transformation of chronic lymphocytic leukemia to aggressive lymphoma.

The primary treatment of sweat gland carcinomas is adequate surgical excision with wide margins. Even after surgical excision with free margins, there have been reports of recurrence.[23] In case of local recurrence, reexcision with wide margins or amputation for extremity lesions is advocated. For metastatic disease, chemotherapy and radiation therapy have been used. Their effectiveness for sweat gland carcinomas is difficult to evaluate both because of the rarity of these tumors, and their protracted natural history even in the presence of metastatic disease.

Radiation treatment has been reported to be ineffective but more recent reports have found a role for radiation in the local control of the disease.[9,24–27] In those reports, various doses of radiation ranging from 30 to 74 cGy were used and controlled the tumors for up to several months. In our patient several limitations of radiotherapy were well illustrated; initial treatment of cutaneous satellite skin metastases produced refractory ulcers which were never entirely free of disease and a source of numerous clinical problems. The nodal metastases to the inguinal region and the spinal lesion were responsive to radiation but response was incomplete and transient.

The role of chemotherapy in sweat gland carcinoma is also under debate. Both single agent and combination chemotherapy have been used with infrequent and at best temporary benefit.[1,2,7,25–29]

Two series of patients with sweat gland carcinomas have been reported with some detail on treatment. In the series from the Mayo clinic, 14 patients are described.[20] Seven of them had surgery alone. Four recurred and one died of disease. Of the six patients who had surgery and radiation, five had recurrence, of whom four died of the disease or with the disease a few months to several years later. Only one patient had surgery, radiation, and chemotherapy (not further specified) and also died of the disease.

In a series from the Memorial Sloan-Kettering Cancer Center, 20 patients who received chemotherapy from 1969 to 1983, are reviewed retrospectively.[31] Single chemotherapeutic agents including doxorubicin, bleomycin, amsacrine, 5-FU, methotrexate, and vindesine were not effective. No objective responses were seen in any of the 13 single agent trials given.

Combination chemotherapy was also not effective except for a few partial, short-lived responses. A total of 17 trials of combination chemotherapy were given and two partial responses, two minor responses, and three responses that were nonmeasurable were observed. In the responding patients, the median duration of response was four months with a range of two to eight months. In four of the seven cases with a response, the combination included doxorubicin and cyclophosphamide. The authors conclude that these chemotherapeutic agents deserve further evaluation in the treatment of sweat gland carcinomas.

One can conclude that there is not an established effective treatment for sweat gland carcinoma beyond wide surgical excision. The literature on chemotherapy and radiation treatment of this malignancy provides the common theme of partial and short-lived responses. Radiation treatment should be reserved for the palliation of symptomatic masses as it has produced benefit in some cases, while its use to treat open skin lesions may produce more problems than palliation. Chemotherapy should be used in symptomatic rapidly progressing metastatic disease in an attempt to delay its progression and provide palliation. The choice of chemotherapeutic agents would be arbitrary in the current state of knowledge but the combination of cyclophosphamide and doxorubicin may be a reasonable first choice based on the Memorial Sloan-Kettering Cancer Center experience and isolated case reports.[7,27,31] The new agent, gemcitabine, produced partial response and a decrease of the CEA in our patient, and although it has never been used before in sweat gland carcinomas, it may be worth considering after other agents have failed.

Observation without treatment should be considered a reasonable option for asymptomatic or slowly progressing and minimally symptomatic patients with metastatic disease. One cannot overemphasize the importance of a timely and correct diagnosis of the disease in a stage that is still curable. For metastatic disease the results of the standard treatments are sufficiently poor to encourage seeking trials of novel treatments with new agents or strategies aiming to potentiate the effect of existing drugs.

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Dorsal Thoracic Cord Compression from a Spinal Angiolipoma: Case Report and Brief Comment

DAVID BAILEY, M.D., JOSEPH ANDREWS, M.D., ERIC MAZUR, M.D.
AND JOSEPH CLEARY, M.D.

ABSTRACT—Angiolipomas are benign tumors usually found in the forearms of young adults. To the best of our knowledge only 63 cases of spinal angiolipomas have been reported in the literature up until 1999 (MEDLINE 1966–1999). We report a case of a spinal angiolipoma causing dorsal cord compression in a 44-year-old woman presenting with subacute lower limb paresthesias, in the absence of sensory or motor findings, which mimicked multiple sclerosis by history. Operative intervention was curative.

Case Report

A 44-year-old female with a known history of GERD, depression, facial rosacea, and mitral valve prolapse, but no prior neurological history, presented with a gradually progressive six-month history of a sensation of lower limb burning, initially left greater than right. The burning was noticeably worse in her thighs. She denied sphincter disturbances, eye symptoms, or actual weakness in her arms or legs. Her only medication was paroxetine. She was a nonsmoker and had no alcohol history. Physical examination was remarkable for lower limb hyperreflexia, bilateral ankle clonus, and Babinski's signs, and difficulty with heel to toe walking. Tone, sensation, and power were normal. Outpatient workup included normal upper and lower limb somatosensory evoked responses, and a C-spine MRI that showed a normal cervical cord in the presence of moderate acquired spinal stenosis. MRI of her T-spine revealed an extradural mass within the dorsal spinal canal (fatty in appearance) from T3/4 to T7/8, with T5/6 cord compression (Fig. 1). The tumor extended into T6/7 and both T5/6 neural foramina. She underwent T3-7 laminectomy and resection of the tumor, which histologically was shown to be an angiolipoma (Fig. 2). She remained symptom-free postoperatively and is well two years into her follow-up. The MRI of her T-spine at one year (Fig. 3) shows relief of the cord compression.

Discussion

Angiolipomas are benign tumors of unclear etiology usually found in the forearms of young adults.[1] Over 90% of spinal angiolipomas are extradural. One school of thought relates their possible etiology to evolution from primitive pluripotent mesenchymal cells that differentiate into lipomatous and angiomatous tissue, whereas another school feels that they are a congenital malformation. For unknown reasons they seem to have a predilection for the thoracic cord. The midthoracic spine is the least well perfused area of the spine, so whether "relative ischemia" in this region causes production of angiogenic factors which might cause evolution of an angiolipoma from a lipoma has been a consideration of some authors.[4] Angiolipomas account for 0.14% of all spinal axis tumors and 3% of extradural spinal tumors.[5,6] They contain a mixture of vascular, adipose, and fibrous components. Among 37 cases reviewed by Preul et al[7] the median age of presentation was 45 years, with a 1.6:1 female to male ratio. In his review, 94% of patients had a sensory distur-

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DAVID BAILEY, B.SC., M.D., M.R.C.P.I., Chief Resident in Internal Medicine, Norwalk Hospital, Clinical Instructor Yale New-Haven Hospital, Yale University School of Medicine, New Haven; JOSEPH ANDREWS, M.D., Attending Physician, Norwalk Hospital, Assistant Clinical Professor of Internal Medicine, Yale University School of Medicine, New Haven; ERIC MAZUR, M.D., Chairman of the Department of Medicine, Norwalk Hospital, Associate Clinical Professor Internal Medicine, Yale University School of Medicine, New Haven; JOSEPH CLEARY, M.D., Program Director for Internal Medicine, Norwalk Hospital, Associate Clinical Professor of Internal Medicine, Yale University School of Medicine, New Haven.

bance at initial presentation. Our patient illustrated that dorsal cord compression can cause a pronounced subjective sensory disturbance without objective sensory signs in a subacute fashion without motor weakness. The process is operatively correctable in the case of angiolipomas. The sensory disturbance may in part be related to disruption of lamina II of the spinal cord, an area thought to be involved with pain perception, and in part by impingement of the mass on the lateral spinothalamic tracts.

Conclusion

Dorsal cord compression can present with paraesthesias without objective sensory or motor findings. The subjective sensory disturbance may historically mimic multiple sclerosis. Extradural tumors are usually malignant. Treatable benign spinal cord extradural lesions, such as angiolipomas, need to be distinguished by MRI from

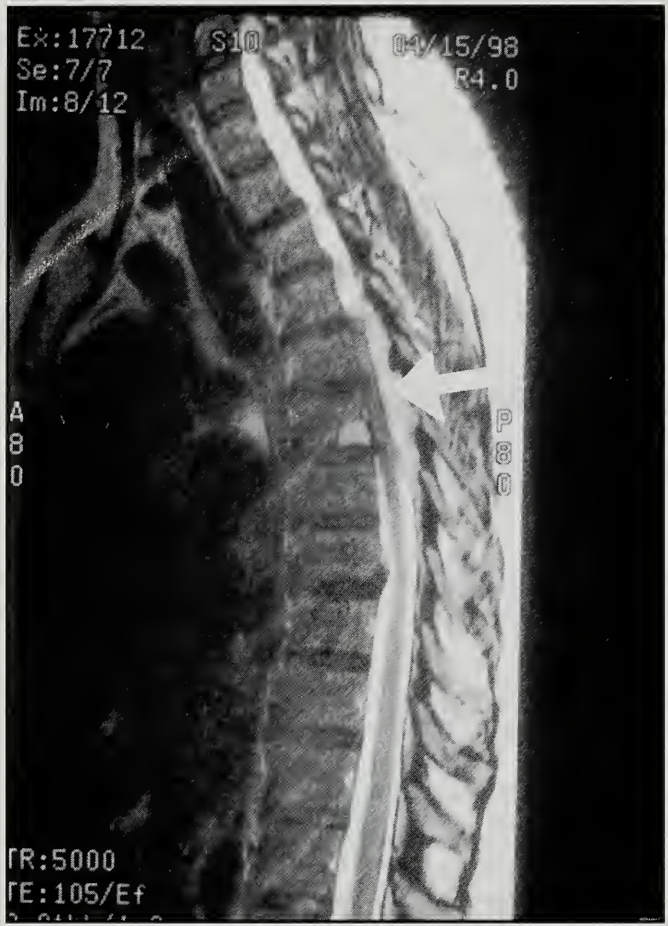
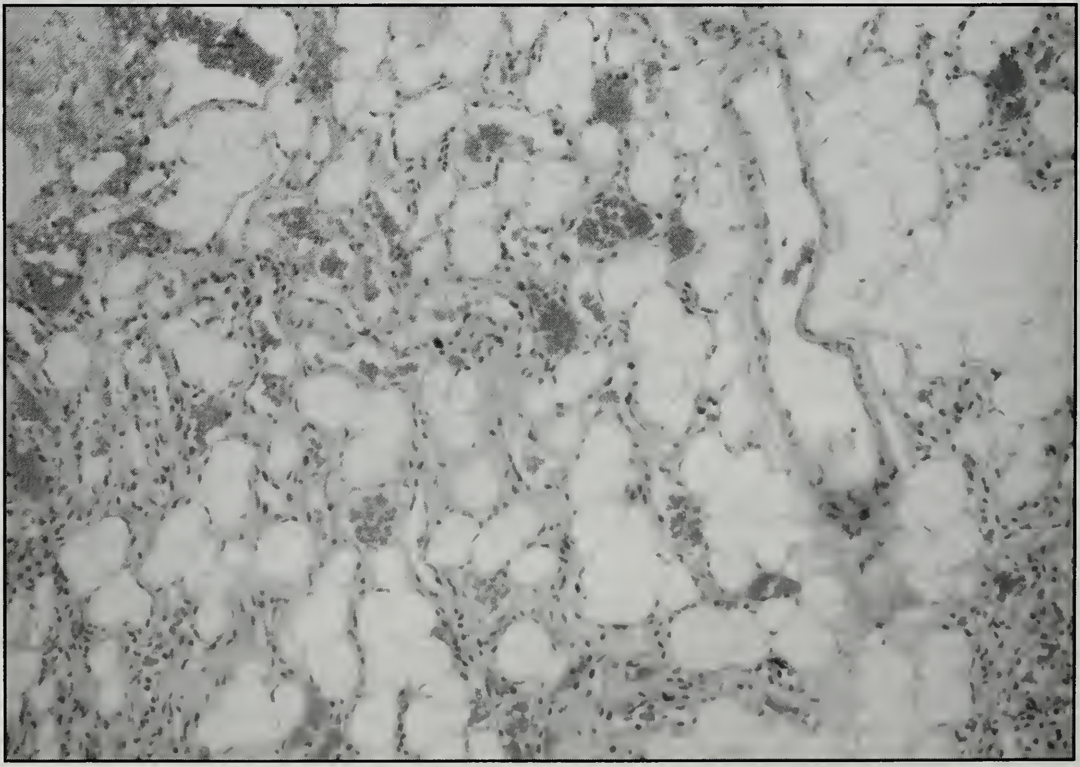


Figure 1.—T2-weighted MRI showing the extradural dorsal cord fatty mass from T3/4 to T/8, with T5/6 dorsal cord compression (arrow). Of incidental note is a lesion in the T6 vertebral body (also seen a year later in Fig. 3) thought to be a vertebral body hemangioma.

Figure 2.—Histological appearance of the angiolipoma with its benign appearing adipose tissue and prominent vascular component consisting predominantly of small venules and capillaries



intramedullary pathology as is seen in multiple sclerosis and then histologically delineated from malignant liposarcomas.

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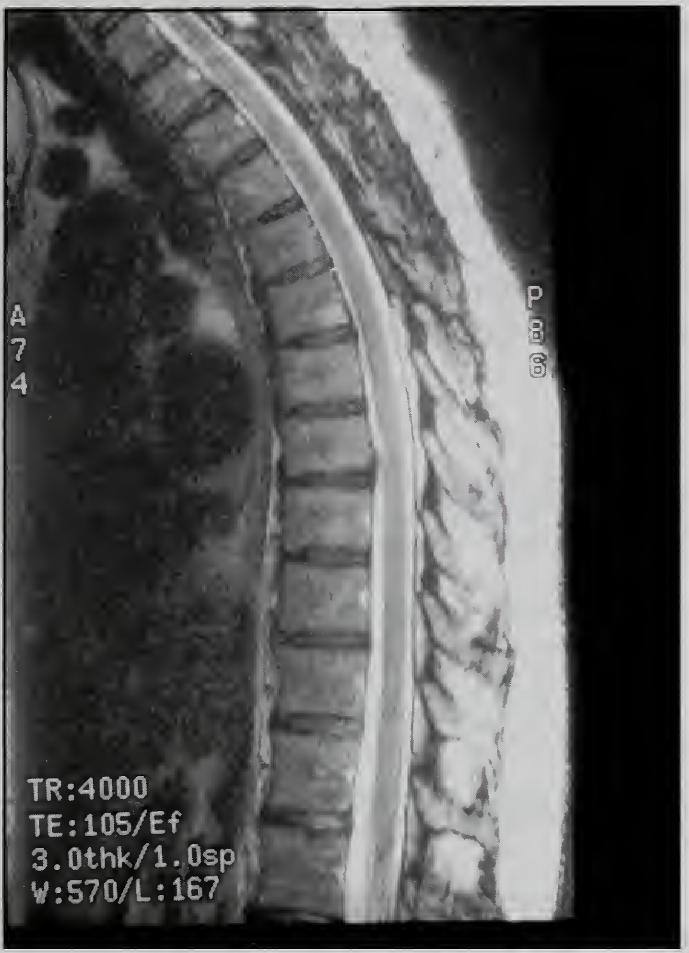

Figure 3.—T2-weighted MRI a year post-operatively showing the relief of the cord compression.

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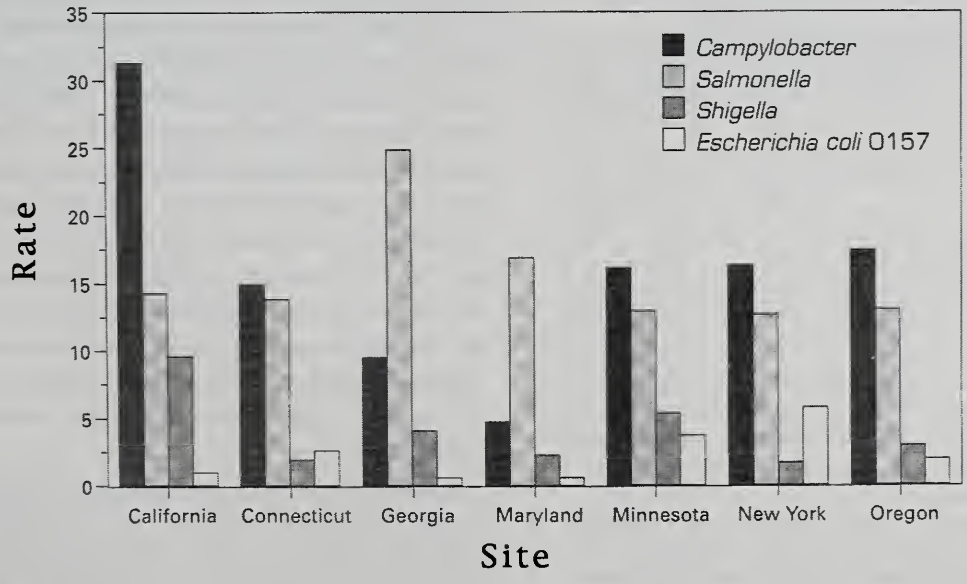
Preliminary FoodNet Data on the Incidence of Foodborne Illnesses—Selected Sites, United States, 1999

EACH year in the United States, an estimated 76 million persons experience foodborne illnesses.[1] CDC's Emerging Infections Program Foodborne Diseases Active Surveillance Network (FoodNet) collects data on nine foodborne diseases in selected U.S. sites to quantify and monitor foodborne illnesses.[2] This report describes preliminary surveillance data for 1999 and compares them with data from 1996–1998. The data suggest that the incidence of the foodborne illnesses under surveillance declined during 1999 compared with 1996 primarily as a result of decreases in campylobacteriosis and shigellosis and indicate substantial regional variation in the incidence of foodborne diseases (Fig. 1).

In 1996, active surveillance began for laboratory-confirmed cases of *Campylobacter, Escherichia coli* O157, *Listeria monocytogenes, Salmonella, Shigella, Vibrio,* and *Yersinia enterocolitica* infections in Minnesota, Oregon, and selected counties in California, Connecticut, and Georgia. In 1997, surveillance for laboratory-confirmed cases of *Cryptosporidium* and *Cyclospora* infections was added. In 1998, the surveillance area for Connecticut became statewide and active surveillance began in selected counties in Maryland and New York. In 1999, the remaining counties in Georgia and eight counties in the metropolitan Albany, New York, area were added, covering 25.6 million persons (1998 population estimate).[5] To identify cases, surveillance personnel contacted each clinical laboratory in their surveillance area either weekly or monthly depending on the size of the clinical laboratory. Cases represent isolation of a pathogen; most specimens were obtained for diagnostic purposes from ill persons. Duplicate isolations of the same pathogen from the same person within one year were excluded from the analysis.

Figure 1.—Rate* of laboratory-confirmed infections detected by the Foodborne Diseases Active Surveillance Network (Foodnet)†, by site—United States, 1999



***Per 100,000 population.**
†Reporting was statewide in Connecticut, Georgia, Minnesota, and Oregon and from selected counties in California, Maryland, and New York.

Reprinted from the *Morbidity and Mortality Weekly Report,* 17 March 2000; vol. 49, no. 10, Centers for Disease Control (CDC), National Institute for Health (NIH).

Preliminary 1999 incidence of pathogens was calculated using the number of cases of isolated pathogens that FoodNet had identified at clinical laboratories as the numerator and 1998 population estimates as the denominator.[5] Final incidence will be available after 1999 population estimates are available.

1999 Surveillance

During 1999,10,697 laboratory-confirmed cases of nine diseases under surveillance were identified: 4,533 of salmonellosis, 3,794 of campylobacteriosis, 1,031 of shigellosis, 530 of *E. coli* O157 infections,474 of cryptosporidiosis, 163 of yersiniosis,113 of listeriosis, 45 of *Vibrio* infections, and 14 of cyclosporiasis. Among the 4,095 *Salmonella* isolates serotyped, 982 (24%) were serotype Typhimurium, 403 (10%) were serotype Enteritidis (SE), 362 (9%) were serotype Newport, 284 (7%) were serotype Heidelberg, and 231 (6%) were serotype Muenchen; 405 (10%) of *Salmonella* isolates were untyped. Among the 949 *Shigella* isolates with a known species, 626 (66%) were *S. sonnei* and 295 (31%) were *S. flexneri.*

For all reporting sites in 1999, incidence per 100,000 population was highest for salmonellosis (17.7), campylobacteriosis (14.8), and shigellosis (4.0). Substantial variation in incidence was observed among the sites for some pathogens (Fig. 1). In 1999, the incidence of campylobacteriosis ranged from 6.6 in Maryland to 32.5 in California. Overall, salmonellosis incidence was similar (from 12.7 to 17.5) among all sites, except in Georgia where the incidence was 25.5. Rates for infections with specific *Salmonella* serotypes varied: infection with *S. Typhimurium* ranged from 2.0 in New York to 4.6 in Georgia, SE from 0.7 in New York to 4.0 in Maryland, and *S.* Newport from 0.2 in New York to 3.2 in Georgia. Incidence of shigellosis ranged from 1.7 in New York to 9.7 in California, *E. coli* O157 infections ranged from 0.6 in Georgia to 5.8 in New York, and yersiniosis varied from 0.3 in Connecticut and New York to 0.8 in Georgia and California. The incidence of cryptosporidiosis ranged from 0.3 in Maryland to 2.3 in Georgia.

Table 1.—Rate* of selected pathogens detected by the Foodborne Diseases Active Surveillance Network (FoodNet)† at the five original sites, by year and organism —United States, 1996-1999

Organism	1996	1997	1998	1999
Campylobacter	23.5	25.2	21.4	17.3
Cryptosporidium	NR[§]	3.0	3.4	2.9
Cyclospora	NR[§]	0.3	<0.1	<0.1
Escherichia coli O157	2.7	2.3	2.8	2.1
Listeria	0.5	0.5	0.6	0.5
Salmonella	14.5	13.6	12.3	14.8
Shigella	8.9	7.5	8.5	5.0
Vibrio	0.2	0.3	0.3	0.2
Yersinia	1.0	0.9	1.0	0.8
Total	**51.2**	**50.3**[¶]	**47.2**[¶]	**40.7**[¶]

*Per 100 000 population.

†In 1996 active surveillance began for laboratory-confirmed cases of *Campylobacter, Escherichia coli* 0157, *Listeria, Salmonella, Shigella, Vibrio,* and *Yersinia* infections in Minnesota, Oregon, and selected counties in California, Connecticut, and Georgia. In 1997, surveillance for laboratory-confirmed cases of *Cryptosporidium* and *Cyclospora* infections began in Connecticut, Minnesota, and Oregon, and selected counties in California.

§ Not reported.

¶Excludes *Cryptosporidium* and *Cyclospora.*

1996–1999 Rate Comparison at Original Food Net Sites

From 1996 to 1999, the incidence of three laboratory-confirmed infections under surveillance declined substantially in the five original FoodNet sites (Table 1). Over this period, the incidence of *Campylobacter* declined 26%, including 19% from 1998 to 1999; all states reported declines in *Campylobacter* rates. The incidence of shigellosis decreased 44% from 1996 to 1999; *S. sonnei* decreased 52% (from 6.4 to 3.1), and *S. flexneri* declined 25% (from 2.0 to 1.5). Rates of *E. coli* O157 infection decreased 22%.

The overall incidence of salmonellosis decreased 15% from 1996 to 1998; however, the incidence increased 20% from 1998 to 1999. Compared with 1998 rates, 1999 rates for salmonellosis increased in Connecticut, Georgia, Minnesota, and Oregon, and declined in California. Rates for *S.* Typhimurium, the most common serotype, were constant from 1996 to 1999 (3.9 and 3.6, respectively). SE rates declined 48% from 1996 to 1999 with a 7% decline from 1998 to 1999. From 1998 to 1999, *Salmonella* infections with serotypes Muenchen, Newport, and Heidelberg increased 348%,79%, and 44% respectively. The incidence of listeriosis, *Vibrio* infections, and yersiniosis were unchanged during the four-year period. Comparing the data on parasitic diseases from 1997 to 1999 (using only the sites reporting in all three years), rates of *Cyclospora* infections decreased 70% (from 0.3 to <0.1); rates of *Cryptosporidium* infection were constant from 1997 to 1999 (from 3.0 to 2.9).

Reported by: S. Shallow, M.P.H., M. Samuel, Dr.PH., A. McNees, M.P.H., G. Rothrock, M.P.H., California Emerging Infections Program, D. Vugia, M.D., Acting State Epidemiologist, California Department of Health Services. T. Fiorentino, M.P.H., R. Marcus, M.P.H., G. Kazi, M.P.H., School of Medicine, Yale University, New Haven; P. Mshar, M. Cartter, M.D., J. Hadler, M.D., State Epidemiologist, Connecticut State Department of Public Health. M. Farley, M.D., S. Desai, M.P.H., S. Segler, M.P.H., Emory University School of Medicine, Atlanta; S. Lance-Parker, D.V.M., P. Blake, M.D., Acting State

Epidemiologist, Division of Public Health, Georgia Department of Human Resources. M. Pass, Johns Hopkins University School of Hygiene and Public Health, Baltimore; T. Karchmer, M.D., C. Gregg, C. Steiner, University of Maryland School of Medicine, Baltimore; M. Carter, K. Henning, J. Razeq, A. Glenn, Maryland Department of Health and Mental Hygiene. K. Smith, D.V.M., J. Bender, D.V.M., J. Besser, M.S., D. Soderlund, M.S., K. Moore, Minnesota Department of Public Health. S. Zansky, Ph.D., D. Morse, M.D., P. Smith, State Epidemiologist, New York State Department of Health. M. Cassidy, T. McGivern, E. Lorber, B. Shiferaw, M.D., P. Cieslak, M.D., D. Fleming, M.D., State Epidemiologist, Health Division, Oregon Department of Human Services Office of Public Health and Science, Food Safety and Inspection Service, Center for Food Safety and Applied Nutrition, Food and Drug Administration. Foodborne and Diarrheal Diseases Branch, Division of Bacterial and Mycotic Diseases; Epidemiology Branch, Division of Parasitic Diseases; and Office of the Director, National Center for Infectious Diseases; and an EIS Officer, CDC.

Editorial Note: FoodNet data for 1999 indicate a decline in several major bacterial and parasitic causes of foodborne illnesses. *Camplyobacter* infections, the leading bacterial foodborne illnesses during 1996–1998, decreased in 1999 in all original FoodNet sites. SE, *Shigella,* and *E. coli* O157 cases also declined substantially. Decreases in the incidence of foodborne illnesses occurred concurrently with disease prevention efforts, including implementation of changes in meat and poultry processing plants, new requirements for food service establishments, and increased attention to good agricultural practices for produce and eggs on farms.[6]

From 1998 to 1999, although *S. typhimurium* rates were steady and SE rates declined, salmonellosis rates increased in all original FoodNet sites except California. The reasons for the increased incidence of *Salmonella* infections are unclear. *Salmonella* can be acquired from foods of animal origin and foods contaminated with animal feces[7]; however, in 1999, several large salmonellosis outbreaks were traced to produce vehicles, including unpasteurized orange juice (*S. muenchen*),[8] mangos (*S. newport*), and raw sprouts (*S. mbandaka*). Controlling *Salmonella* requires prevention efforts among all food commodities. The decline in *Shigella* was largely restricted to *S. sonnei,* and followed an outbreak in 1998 traced to imported parsley,[9] which increased attention to produce-associated shigellosis.

The findings in this report are subject to several limitations. First, although FoodNet surveillance encompassed 9% of the U.S. population in 1999, these areas were not a nationally representative sample. Second, FoodNet data are limited to laboratory-confirmed illnesses; however, most foodborne illnesses are neither laboratory confirmed nor reported to state health departments. Third, some laboratory-confirmed illnesses reported to FoodNet can be acquired through nonfoodborne routes, such as water, person-to-person contact, and direct animal exposure; therefore, rates do not represent foodborne sources only. Further surveillance is necessary to determine whether changes represent year-to-year variation or definitive trends.

In 2000, selected counties in Tennessee and Contra Costa County, California, will be added to the FoodNet area, bringing the FoodNet surveillance population to approximately 29 million persons—11% of the U.S. population (1998 estimates). The 1999 final FoodNet report will include incidence figures and other information, such as illness severity, and will be available later in 2000 at the FoodNet site on the World-Wide Web, http://www.cdc.gov/ncidod/dbmd/foodnet. Because the population within FoodNet sites probably has increased since 1998 (the increase from 1997 to 1998 was 1%), the final 1999 rates might be slightly lower than the preliminary rates. Additional analysis of FoodNet surveillance data, foodborne outbreak data,[10] and surveys of clinical laboratories, healthcare providers, and consumers will facilitate interpretation of FoodNet data and help track temporal trends in foodborne illnesses.

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A blood transfusion allowed Sylvia to bring her sweet Diana into this world.
It also may have put her at risk for hepatitis C.

Sylvia made it through that difficult delivery. That's what put her, along with thousands of others who had major surgery, were treated for serious injury or illness, or were born prematurely, at risk for hepatitis C—because many of them had a life-saving blood transfusion. If you received a transfusion or organ transplant ***before July 1992,*** you should be tested for hepatitis C, a disease that can damage your liver and cause it to fail. To learn more, call 1-888-4HEP CDC (1-888-443-7232) toll-free, or access our website at: www.cdc.gov/hepatitis

Ask your doctor if you or your loved ones should be tested for hepatitis C.

HEPATITIS C

YOU MAY BE AT RISK IF YOU HAD A BLOOD TRANSFUSION *BEFORE JULY 1992*

DEPARTMENT OF HEALTH & HUMAN SERVICES · USA

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

Phytoestrogens

PHYTOESTROGENS, plant compounds that are converted to estrogens in the gut, are widely promoted as "natural" substitutes for estrogen in hormone replacement therapy.

SOURCES—The most important phytoestrogens found in the human diet are isoflavones, derived mainly from soybeans (tofu, which is processed soy, contains less), and lignans, which are present in high concentrations in flaxseed but are also found in various cereals, vegetables, fruits, and legumes (Tham DM, et al: *J Clin Endocrinol Metab* 1998; 83:2223). The other best known sources of phytoestrogens are black cohosh *(Cimicifuga racemosa)* and red clover *(Trifolium pretense)*. The estrogenic components of black cohosh are thought to be triterpenoid glycosides and isoflavones (Foster S: *Herbal Gram* 1999; 45:35). The estrogen-like compound in red clover is coumestrol, an isoflavone also found in soybean sprouts.

MECHANISM OF ACTION—Phytoestrogens generally act as weak estrogens, but may also have antiestrogenic effects (Ginsburg J, Prelevic GM: *Lancet* 2000; 355:163, 15 January). In some studies they caused estrogenic changes in vaginal cytology, but in others they did not (Baird DD, et al: *J Clin Endocrinol Metab* 1995; 80:1685; Duncan AM, et al: *J Clin Endocrinol Metab* 1999; 84:3479). Antiestrogenic effects of phytoestrogens sometimes observed on vaginal and uterine cytology are thought to be due to competition for estrogen receptors; these effects could interfere with hormone replacement therapy.

EFFECTIVENESS—The evidence that phytoestrogens have beneficial effects on postmenopausal women is mainly epidemiological: Asian women have fewer hot flushes, eating soy can lower serum cholesterol concentrations, and some women who ate more soy had a lower incidence of breast cancer (Ingram D, et al: *Lancet* 1997; 350:990; Anderson JW, et al: *N Engl J Med* 1995; 333:276; Messina MJ, et al: *Nutr Cancer* 1994; 21:113). One randomized trial in 104 postmenopausal women concluded that addition of soy protein to the diet reduced the frequency of hot flushes, but the results, presented only in terms of percent reductions, are difficult to evaluate (Albertazzi P, et al: *Obstet Gynecol* 1998; 91:6). Another randomized controlled study in 145 postmenopausal women found that a large intake of soybean foods and flaxseed for 12 weeks decreased the frequency of hot flushes and vaginal dryness compared to controls, but the overall difference in menopausal symptoms was not statistically significant (Brzezinski A, et al: *Menopause* 1997; 4:89). A double-blind six-week crossover trial in 51 perimenopausal women found that 20 grams of a soy protein supplement decreased the severity but not the frequency of menopausal symptoms (Washburn S, et al: *Menopause* 1999; 6:7).

ADVERSE EFFECTS—No serious adverse effects of phytoestrogens have been reported, but the types of studies that would be needed to detect them have not been done. One study in premenopausal women found that soy protein increased breast cell proliferation (McMichael-Phillips DF, et al: *Am J Clin Nutr* 1998; 68:1431S).

CONCLUSION—Some plant products, particularly dietary soy, may have a weak estrogenic effect and some antiestrogenic effects. The dosage and purity of commercial phytoestrogens and their possible adverse effects are unknown.

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Exemestane for Advanced Breast Cancer

THE FDA has approved exemestane *(Aromasin*—Pharmacia & Upjohn), an aromatase inhibitor, for treatment of postmenopausal women with advanced breast cancer that has progressed during treatment with tamoxifen. The first two aromatase inhibitors approved by the FDA for use in treating postmenopausal breast cancer were anastrazole *(Arimidex—Medical Letter* 1996; 38:61) and letrozole *(Femara—Medical Letter* 1998; 40:43).

MECHANISM OF ACTION—Aromatase inhibitors block peripheral conversion of adrenal androgens to estrone and estradiol, inhibiting the main source of estrogen production in postmenopausal women. Anastrazole and letrozole both act by reversible inhibition of the enzyme. Exemestane (6-methylenandrosta-1,4-diene-3,17-dione), a derivative of androstenedione, acts as a false substrate for aromatase and binds irreversibly to its active site, resulting in inactivation.

PHARMACOKINETICS—Exemestane is rapidly absorbed from the gastrointestinal tract (Scott LJ, Wiseman LR: *Drugs* 1999; 58:675). It is extensively metabolized by CYP3A4 and other enzymes in the liver; the metabolites are excreted about equally in urine and feces. The drug has a half-life of about 24 hours. Hepatic or renal insufficiency increases the area under the time-concentration curve (AUC).

DRUG INTERACTIONS—Inducers of CYP3A4, such as rifampin, might decrease serum concentrations of exemestane. According to the manufacturer, ketoconazole, a potent 3A4 inhibitor, did not increase serum concentrations of the drug.

CLINICAL TRIALS—A randomized study in 769 postmenopausal, tamoxifen-refractory, advanced breast cancer patients compared exemestane (25 mg PO once daily) with megestrol acetate (40 mg PO q.i.d). Objective response rates were 15% with exemestane and 12% with megestrol. The median time to progression was 20 weeks with exemestane and 17 weeks with megestrol (Kaufmann M, et al: *J Clin Oncol* 2000; 18:1399, April). Another report describes a 13% objective response rate with exemestane in patients with metastatic breast cancer refractory to both tamoxifen and megestrol acetate. The median duration of response was nine months (Jones S, et al: *J Clin Oncol* 1999; 17:3418). A few metastatic breast cancer patients who failed to respond to other aromatase inhibitors have responded to exemestane (Lonning PE, et al: *Breast Cancer Res Treat* 1998; 50:304, abstract 435).

ADVERSE EFFECTS—Exemestane is generally well tolerated. The most common adverse reactions have been hot flashes (13%), nausea (9%), fatigue (8%), increased sweating (4%), increased appetite (3%) and excessive weight gain (8%).

DOSAGE AND COST OF AROMATASE INHIBITORS

Drug	Daily Dosage	Cost*
Exemestane *(Aromasin)*— Pharmacia & Upjohn	25 mg PO once	$213.75
Anastrozole *(Arimidex)*— AstraZeneca	1 mg PO once	194.32
Letrozole *(Femara)*— Novartis	2.5 mg PO once	187.20

*Cost to the pharmacist for 30 days' treatment according to wholesale (AWP) prices in Drug *Topics Red Book Update*, April 2000.

CONCLUSION—Exemestane, an irreversible aromatase inactivator, appears to be more effective than megestrol acetate for treatment of advanced breast cancer in postmenopausal women whose disease has progressed on tamoxifen. Direct comparisons of exemestane with other aromatase inhibitors are not available.

Reprinted with permission from *The Medical Letter*, vol. 42, 17 April 2000.

Hospitals Still Essential But No Longer the Center of Health-Care Delivery

If Not Hospitals, Where's the Center?

RICHARD L. REECE, M.D.

(HINT: It's intangible. It's global. It's ubiquitous. It's free. And it can be accessed, connected, and linked anywhere, anytime, all the time by patients, physicians, and anybody else. But it is only the center if we can get doctors to use this thing, and that will take a while.)

> "THE new economy has three distinguishing features. It is global. It favors intangible things—ideas, information, and relationships. And it is intensely interlinked. These three attributes produce a new type of marketplace and society, one that is rooted in ubiquitous electronic networks."
>
> Kevin Kelly, *New Rules for the New Society: 10 Radical Strategies for a Connected World, Penguin Books, New York, 1998*

The force is with us, and it's irrevocably transforming the health system from one characterized by hospitals concentrating and hoarding power and resources into one where the center of power lies somewhere out there in cyberspace and where resources are transparent and shared.

What Everybody Knew

In yesteryears, *everybody knew* academic medical centers, community hospitals, and physicians *were* the medical establishment. *Everybody knew* hospitals and physicians needed each other. *Everybody knew* hospitals served as specialists' workshops and was their main place for generating revenues. That's what everybody knew, before the new thing came.

The New Realities

But that was then, and now is now. Now the medical establishment is being dismantled, integrated delivery systems are disintegrating, and hospital-physician relationships are dissolving. Now it's the *old order of things vs the new order of things*—the old economy *vs* the new economy, the old community-based health systems *vs* the new globally-based health systems, continuous integration into bigger entities *vs* discontinuous decentralization

Author's Note: What follows rests on my reading of over 8,000 health-care newspaper items I have collected and categorized over the last 26 months; experiences as editor-in-chief for the past four years of *Physician Practice Options*, a newsletter dedicated to helping physicians succeed in practice; 35 years on the hospital and clinical frontlines as a hospital pathologist and owner of an outpatient labortory; on 25 years in Minneapolis, where I was present at the center in the creation, peak, and decline of the modern managed care movement; and on recent services as board member of a health dot.com company, VPManager.com, with a mission of bringing business support services to independent practicing physicians.

This is the fifth in a series of articles I have written for *Connecticut Medicine.* The first four were: "A Special Report on the National Congress on the Future of Medical Practice and Practice Management," (*Conn Med* 1998; 62:721–30); "Special Report: Medical Megatrends, 1999," (*Conn Med* 1999; 63:149–57); "The Internet as an Equalizing, Energizing, and Transforming Force in Patient and Physician Relationships," 1999; 63: 683–9); and "The Laffer Curve and HMOs: Or, Is Managed Care on the Slippery Downhill Slope?" (*Conn Med* 2000; 64:11–8).

RICHRAD L. REECE, M.D., Editor-in-Chief, Physician *Practice Options,* Old Saybrook.

into smaller entities. It's the real world against the virtual world. For most hospitals and most physicians, adapting to this new order of things will take some getting used to and will produce a period of chaos.

Hospital Chaos

For hospitals, the cornerstone of the old health-care economy, this period of chaos comes in the form of financial crises, dropping margins, downsizing, or, to use the word of the euphemists, rightsizing.

- Academic medical centers are under siege, going bankrupt, and begging for help.[1-3]
- Community hospitals are pleading to state governments for tax aid to offset Medicaid and Medicare losses.[4,5]
- Hospital-based integrated delivery systems are losing \$83,000 to \$111,000 per acquired physician per year.[6,7]
- Hospitals' operating margins are falling—from 6.3% in 1997, to 4.3% in 1998, to 2.7% in 1999.[8]
- Major hospital systems—including Rush Presbyterian, Harris Methodist, Matthew Thornton—are abandoning PHO-based HMOs and selling them to for-profit health plans.[9]
- The Allegheny Hospital Education and Research Foundation (AHERF), the largest Integrated Delivery System in Pennsylvania, went bankrupt with \$1.3 billion in losses and set its 500 acquired physician practices adrift.[10]

What's Going On Here?

One lesson learned from hospital financial misadventures seems to be this: you can't horizontally and vertically integrate at the same time without going broke. As Lawton Burns and his colleagues explained in "The Fall of the House of AHERF: the Allegheny Bankruptcy," there's plenty of blame to go around:[10]

"Many actors and factors were responsible for AHERF's demise. The system embarked on an ambitious strategy of horizontal and vertical integration just as reimbursement from major payers dramatically fell, leaving AHERF overly exposed. Hospital and physician acquisitions increased the system's debt and competed for capital, which sapped the stronger institutions. Management failed to exercise due diligence in many of these acquisitions. Several external oversight mechanisms, ranging from AHERF's board to its accountants and auditors and the bond market, also failed to protect community assets."

Structural Integration, Cultural Disintegration

But there is another big factor as well—the unravelling of hospital-physician bonds. Here's futurist Jeff Goldsmith's take on disintegrating hospital-physician relationships[11]:

"The problem has been in the corporate enterprises. The dominant organizational paradigm that has guided health system formation in the past decade has been the IDS, which integrates financing and delivery of care, and incorporates to some degree captive physician practices via salaried employment.... Whatever the motivation for IDS formation, idealistic or pragmatic, the present state of the integrated health enterprise is deeply troubled. Only a handful of IDSs are generating decent economic returns, and many have more than equaled operating profits from hospitals with health plan losses and losses from acquired physician practices.... *But more significantly, as health systems integrated structurally, they disintegrated culturally* (italics mine). The gap between professional and managerial cultures that existed during most of the 1980s and early 1990s widened into a chasm by the late 1990s. Professionals of all stripes—not merely physicians, but nurses, technicians, social workers, and others—saw their practices increasingly commoditized and marginalized by the growing corporate ethos in their systems; professionals lost contact, physically and spiritually, with the 'adminisphere'—the tiny handful of people running their systems."

Hospital Control and the Physician Culture

One factor creating the cultural chasm is the control mentality of hospital executives. To them, this control mindset is not only rational but necessary. After all, they are accountable to their boards, which are made up of hard-nosed businessmen who demand an accounting of hospital actions. To fill the void created by lack of physician leadership, these executives, like E.T., ascend into the "adminispheric fog" of the board rooms to gain firmer control. From that altitude, they often can't see or appreciate what's going on in the clinical trenches.

The Essence of the Physician Culture

There's another factor—hospital executives still "don't get" the essence of the physician culture. This culture's essence is as follows:

1. Physicians pride themselves on being independent professionals and on being able to function alone or in small groups; that's why most doctors still practice in groups of five or less.
2. Physicians want practical information to help them succeed and maintain their independence and income, not comprehensive computer systems or organizational management systems that slow them down and generate information to imprison them in restrictive guidelines.
3. Physicians are smart enough to know that hospitals, HMOs, management companies, and large group practices have all had their runs at owning, organiz-

ing, and employing physicians, and that all, for the most part, have failed to make a go of it.

4. Physicians know that business critics are cynically disparaging when they say physicians are as impossible to herd as cats, to organize as butterflies, to get to fly in formation as eagles, or to tame as tigers or lions; they also may have the last laugh, as big HMOs like Aetna, big hospitals like the University of Pennsylvania, and big PPMs, like PhyCor, fall by the wayside.
5. Physicians understand the "the physician culture," its strengths and its weaknesses and its underlying cohesion, even as its critics dismiss it as "600,000 fragmented doctors with 2000 charts each."
6. Physicians scoff at the zeal of industrial reformers to impose the industrial model of consolidation, integration, and minimal statistical variance on physicians, because they know that most reformers have yet to spend a day in the trenches with real doctors and real patients.
7. Physicians have yet to hear a sick patient say, "I feel ill. I must go to my Integrated Delivery System:" patients still go to their responsible personal physician.
8. Physicians are a self-organizing swarm, who move in overall unison to a professional beat bred into them by self-selection and training.
9. Even physicians in large group practices, Mayo and other groups of 100 or more, who make up 1% of America's physicians, and the other 10% or so who are employed by academic medical centers, regard themselves as independent professionals.
10. Physicians are independent professionals who wish to be rewarded on the basis of individualism; that's why physicians make bad employees—ask HMOs, hospitals, IDSs, PPMCs, or other health-care corporations who have tried to rein in that individualism or put physicians on salary.
11. Physicians are self-learning Darwinians who know how to act, react, adapt, and survive as individuals and as members of small groups.
12. Physicians are a brotherhood and sisterhood - a crowd of professionals who know how each think and who instinctively act similarly without asking.
13. Physicians ask to be trusted to do the right thing, to be considered professionals, to be paid for productivity, and to be provided with evidence-based, timely, real-time, and relevant data to make the right decisions.
14. Physicians respond to comparative data that *they enter, share, understand, help create, and that advances and improves patients' outcomes:* that's why the handheld Palm Pilot, which permits doctors to enter their own accurate diagnostic codes is so powerful.
15. Physicians prefer not to be "owned": the Internet's promise is that it will provide them "bottom-up" information to empower them, make them more efficient, and help them remain in their own practices.
16. Physicians prefer to be disciplined by markets and consumers rather than by top-down organizations: physicians trust markets and consumers, who judge them from personal patient/physician interaction.

Hospitals—The Former Center of the Health-Care Universe

Like most physicians, I was brought up to believe that the modern American hospital was the center of the health-care universe. After all, American physicians received most of their training within hospitals, chiefly in academic medical centers or in other teaching hospitals. In our educational process, we came to admire high-tech specialists who practice in hospitals or hospital-based specialists as role models. We considered hospitals as the centerpiece of the entrenched health-care establishment. Hospitals are often the biggest employers in any given community—bigger than steel in Pittsburgh, bigger than oil in Houston, bigger than Wall Street in New York City, bigger than insurance in Hartford, and bigger than Yale in New Haven. In the nation as a whole, hospitals consume 35% to 40% of the health-care dollar, twice the 18% to 20% flowing to physicians.

The Power Shift Away from the Center

But, over the last 10 years, the center of health-care delivery has shifted away from the hospital. This is partly because of managed care, which profits by keeping people out of hospitals. It's partly because of the government, which is pushing Medicare HMOs, cutting hospital reimbursement. It's partly because of new technologies, which make it possible and profitable to perform 90% of procedures outside of hospitals. It's partly because of physicians, who have begun to do more procedures outside the hospital, who lose money on managed care contracts when they refer patients to hospitals, and who have come to know through bitter experiences that hospitals have little competency at managing medical practices.

No Compelling Logic for Organizing System Around Hospital

James C. Robinson, Ph.D., associate professor of health at the University of California, Berkley, and Lawrence P. Casalino, M.D., Ph.D., a clinical assistant professor of family medicine at Stanford and a community-based family practitioner, expressed clearly what was going on in the California marketplace in 1996:[12]

"The nature of the organizational relations between medical groups and hospitals is one of the central questions for the future of the health-care delivery system. Managed care aims to shift the locus of medicine away from the acute inpatient facility to the outpatient office, the subacute facility, and patient's home. *Organizing a delivery system around the hospital has a less compelling logic with each passing year."* (italics mine)

It's No Fun Being a Hospital Executive These Days. America's hospitals are under attack and losing ground on multiple fronts. At least that's what America's newspapers would have us believe.

- The 1997 Balanced Budget Act slashed hospitals' Medicare reimbursements and is leading them down the path towards insolvency.[13]
- Medicaid payments in Connecticut are 28% under hospital costs and submerging hospitals under a sea of red ink.[14]
- The Federal government is accusing them of Fraud and Abuse, compelling them to set up Compliance Policies and to hire Chief Compliance Officers.[15]
- The Institute of Medicine issued a report *To Err is Human* saying hospital mistakes kill 44,000 to 88,000 Americans a year, making them the "eighth top killer."[16,17]
- The U.S. Center for Disease Control reports that infections contracted in hospitals kill many people each year and that 384,000 health-care workers in hospitals suffer needle stick injuries each year.[18]
- Hospital bond ratings dropped and 85% of lenders say they are reluctant to loan money to hospitals or other sectors of the health-care industry.[19,20]
- America' s leading academic health centers, including the University of Connecticut, are threatened with closure and need state or federal aid, or both, to survive.[1-3]
- Leading hospitals, such as Harris Methodist, Rush Presbyterian, and Matthew Thornton have been forced to sell their HMOs to for-profit HMOs.
- AHERF, Allegheny Hospital Education and Research Foundation, Pennsylvania's largest Integrated Delivery Systems, lost 1.3 billion and declared bankruptcy.[10]
- A study by Ernst & Young of 129 IDSs: they are losing an average of $110,000 per doctor per year on acquired practices, and a similar study by Longshore +Simmons, revealed that in 322 acute care hospitals 83% of hospital-based physician practices were losing money.[7,8]

Less and More Negative Press for Hospitals

These days hospitals are getting less exposure in newspaper and Internet releases than other sectors of the health system (Fig. 1). This may surprise some since hospitals remain the most visible reminders of the health-care industry, and they still comprise the biggest single cost item. Even when hospitals hit the news, they are often portrayed as dangerous places, where most medical errors, needle sticks, and tragic fatalities occur. As you review the information (Figs. 1–4), you can see investor confidence in hospitals is dropping as attention is shifting away from hospitals as the center of care. The American public can keep only so many things in their mind at one time. Preoccupation with HMOs, the Internet, drugs, and physicians shifts attention and ultimately resources away from hospitals.

Figure 1.—Number of newspaper articles and internet press releases on hospitals compared to drugs and drug companies, biotechnology and genetics, and online health companies, 1 February 1999 to 15 March 2000.

News Category	No. of News Items	% of Total News Items
HMOs, problems, controversies, financial news, patients rights, doctor conflicts	1009	12.6%
Online health care, internet, websites, applications	978	12.2%
Drugs, research, development, new, business mergers, safety, clinical trials	742	9.3%
Physicians, profiles, problems, unions, management, HMO conflicts	597	8.5%
Hospitals, mergers, for-profits, effect of balanced budget act, finances	167	2.1%

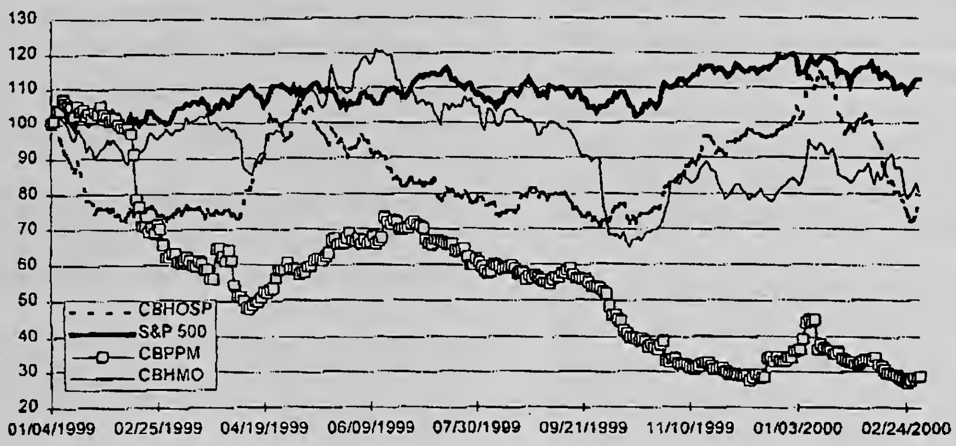

Figure 2.—Cain Brothers' HMO, Hospital, and PPM (Physician Practice Management) indices compared to the S&P's 500 Index. Note that the Cain Brother' Hospital Index (CBHOSP) lags 37 points below the S&P 500 Index—75 *vs* 112; that the HMO Index is 80, 32 below the S&P, and that the PPM Index is 30, 82 below the S&P. For the period ending March 2, 2000 the HMO Index is down 19.6%, the PPM Index is down 71.2%, and the S&P is up 12.6%.

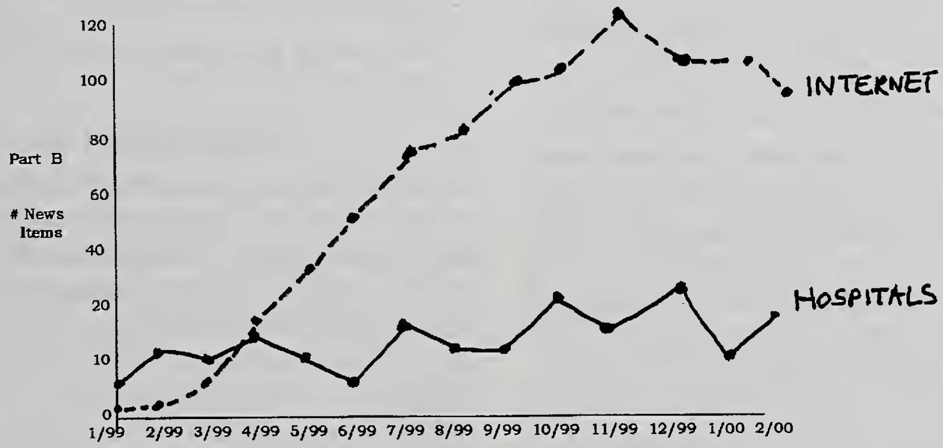

Figure 3—The number of newspaper articles and Internet news releases I have collected and categorized from 1 January 1999 through 1 March 2000. Note that the gap widened in April, 1999 and has been widening ever since.

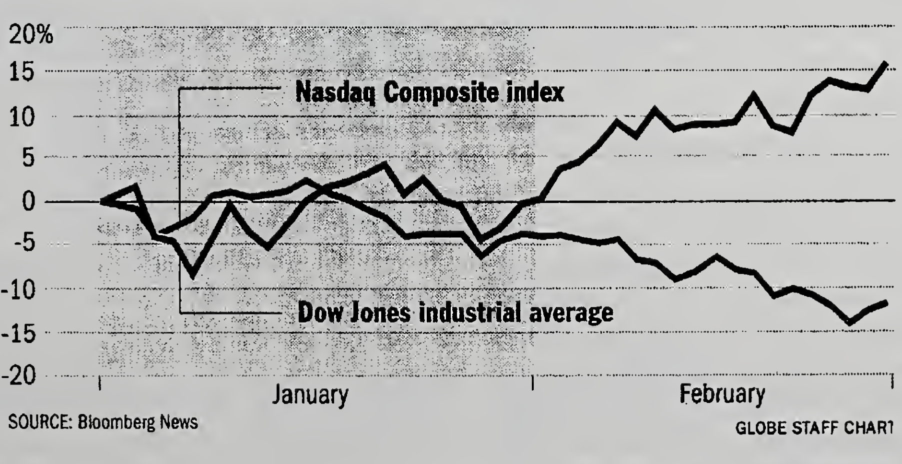

Figure 4.— Tracking the two economies—the "new," the Nasdaq *vs* the "old," the Dow Jones industrial average.

- HMOs, controversial as they may be, have succeeded in radically reducing the number of patients admitted to hospitals, and in the process, have reduced hospital revenues, shortened stays, and downsized hospitals.
- The Internet directs most of its applications towards consumers and physicians, thereby shifting the focus and locus of care from institutions—and from the medical establishment—to individuals sitting before their PCs.
- Drug companies proclaim they reduce the "total illness burden" by preventing, treating, and curing disease with the express purpose of making hospitalization unnecessary; indeed, according to Columbia University economist Frank Lichtenburgh "higher-than-average rates of prescribing are associated with fewer hospital admissions and shorter hospital stays."[20]
- Physicians, under financial pressure from HMOs, are hospitalizing patients less and assuming financial risk for hospital costs; physicians themselves, when possible, are moving treatment and procedures outside of hospitals, both for patient convenience and for the physicians' own economic self interest.

Hospitals Essential, Not Going to Fade Away

Hospitals aren't going to fade away. The population is aging too dramatically for that to happen. Today, the Medicare population occupies 50% of hospital beds. That percentage will increase in the years ahead. In 2000, 12% of Americans are over age 65. By 2030, 20% of Americans will be over 65. The proportion of Americans over 65 will be the same as Florida, and America, in effect, will become a nation of Floridas. Sixty-five-year olds consume five times the health resources of 25-year olds.

Besides, as the uninsured population, now 45 million, grows, the need for hospitals grow. Hospital emergency rooms still constitute this population's principal route to care.

And finally, critical illnesses and new technologies demand hospitalization. I can't imagine coronary bypass surgeries, transplants, most intra-abdominal or intrathoracic procedures, or most radical cancer surgery being performed in nonhospital settings.

Being Essential Doesn't Constitute Control

Hospitals have sought to maintain control as the center of health-care delivery. The results have not always been happy. Take the example of hospital-backed HMOs, with PHO precursors and with physicians as economic partners. By and large, these HMOs have failed, due in part to hospitals' inexperience in marketing HMOs, in underestimating the capital demands of setting up and maintaining HMOs, and in part to the inherent conflict between hospitals, who need more patients, and physicians, who lose money by hospitalizing patients and dealing with HMOs.

Seven Ways to Kill a Hospital-Physician HMO

According to William De Marco, a well-known health-care consultant, hospitals kill their HMOs in seven ways:[9]

- By operating the HMO as a hospital department, "the control-freak syndrome" at work again, rather than as a separate business.
- By staffing the HMO with hospital executives, who may be in control but who know little about the dynamics of the market outside the hospital or inside physicians' offices.
- By selling the HMO to their own employees, who are forced to accept the hospital "offer" but frequently want more choice.
- By underestimating how much capital an HMO will require and by trying to make up the difference by raising hospital rates and reducing physician pay.
- By subsidizing physicians' overutilization.
- By delaying utilization review with teeth to avoid conflicts with physicians.
- By putting physicians at risk for outpatient AND hospital care.

So Where's the Center?

So if hospitals have proven ineffective as the center of health-care delivery, who should occupy the center? Certainly not physicians, acting alone. There's simply no cohesive organization large enough to do the job. The American Medical Association has only 1/3 of practicing physicians as members, and its for-profit website, Medem.com, is still in its rudimentary building phase. Probably not consumers, either. Although there's much talk about a consumer-driven health system, consumers are still too disorganized to mount a takeover of the system. Employers? The government? Both doubtful.

Too Much for Employers or the Government to Handle

The combined impact of an aging population, accelerating financial demands, and rapidly developing technology are simply too much for employers or the government to handle. As David Friend, M.D., M.B.A., an executive for Watson Wyatt Worldwide, a consulting firm in Boston, notes: "The consequences of these changes will be a wholesale rewrite of the underlying social contract. The promise of a defined benefit pension check, along with complete access and payment for health care, will be replaced by a defined contribution pension plan, where a set amount of money will be provided, regardless of its adequacy, to pay for the quality of life expected and the level of health care needed." [22]

A government takeover? Don't count on it. It isn't even an issue in the current presidential campaign.

The Universal Solution

What's the universal solution? No one knows for sure, but one man, Jim Clark, founder of Silicon Graphics and Netscape and the man who raised the money to take Healtheon public in February 1999, is confident he has the answer. It's the Internet, stupid! And Healtheon's track record over the last year indicates he and his handpicked crew of programmers and computer engineers and acquisitive business partners are doing their best to prove he's right (Fig. 5).

According to Dr. Bruce Hochstadt, a health-care analyst at Thomas Weisel Partners, a merchant bank based in San Francisco, "Healtheon is the 900 pound gorilla in Internet health care, but there is not much room for error. Once investors catch wind things are moving slower than expected or are a little stalled, some won't have the tolerance to stick around."[24]

Investing in Healtheon is a giant leap of faith. As its losses widen, its stock is rising in anticipation of it becoming profitable in 2002. More than 1,000 software programmers and computer engineers are working day and night in Santa Clara, California, to achieve Clark's dream—to make the Internet the center of the health-care universe—a reality. But the road through the stock market to the center of the health-care system has not been a smooth one, with one of the principle obstacle's being the practicing physicians' lack of comfort with the Internet and reluctance to use it routinely.

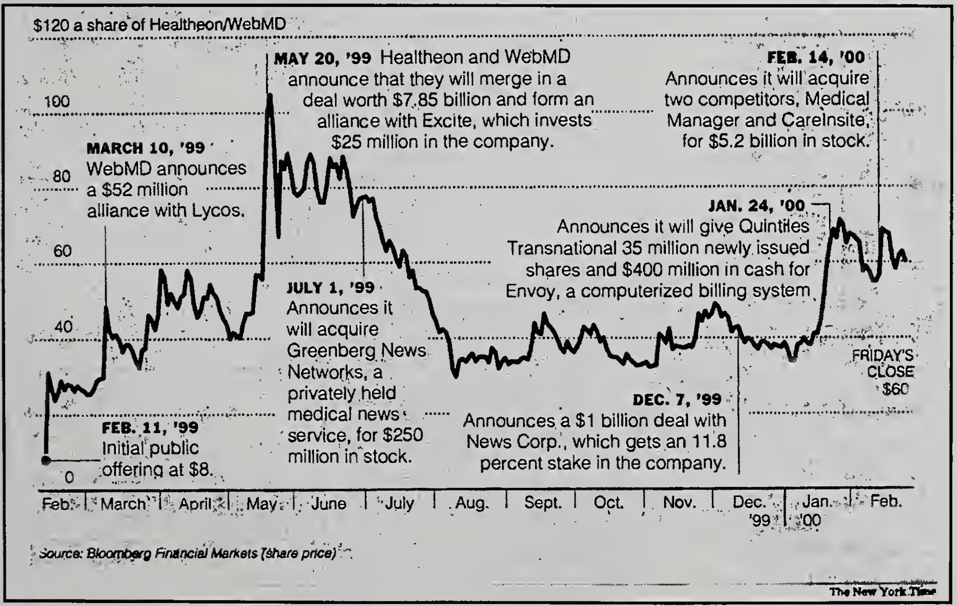

Figure 5.—In building its online health empire, Healtheon/WebMD, through a long list of alliances and some 80 acquisitions, has become the dominant player in online services. Here are some key deals that have given the company the capacity to offer a broad range of services for physicians.

Source: New York Times, Feburary 28, 2000,

Now back to Clark's view of the health-care world. In his book, *The New New Thing: A Silicon Valley Story* (W.W. Norton & Company, New York and London, 2000), Michael Lewis paints this picture of Clark and his vision:

"By early 1996 Americans were spending $1.5 trillion a year on their health care and about a third of that was pure waste. Much of the waste could be avoided simply by eliminating the paperwork. Since much of the paperwork seemed to be designed to prevent the patient from getting what he wanted when he wanted it, eliminating it would please the customer. *The Internet was made for such a task: in effect, the Internet enabled all of the many parties of any health-care transaction to be present in the same room* (italics mine). The patient could walk into the office of a doctor he's never met, supply the doctor with a password, and a few seconds later the doctor would have his medical record and insurance coverage. A few minutes after the patient left, the doctor would bill the insurer over the Internet, and be paid. If the patient needed drugs, those too could be ordered over the screen. Right in the doctor's office. No forms, no papers, no hassle."

"Clark sat down with a piece of paper—a piece of paper!—and drew this little diagram" (Fig. 6).

Clark called this diagram the *Magic Diamond*, then he created a company called Healtheon to connect the various points of the diamond. Then he raised capital in Silicon Valley to take Healtheon public.

Clark's solution to the health-care problem? " We want to empower the doctors and the patients and get all the others out of the way, except for us." Selling this concept to Wall Street required a more sophisticated concept, so the Magic Diamond became the *Chart of Many Bubbles* (Fig. 7).

To Clark's way of thinking, "There were health-care professionals who served a purpose. They were called doctors. And there were people who clearly needed health care. They were called patients. Everything else in between could go."

But as an English philosopher, Alfred North Whitehead, said: "Seek simplicity, but distrust it. " Healtheon was not the only shark in the capitalistic sea, and other companies rushed in to fill the void at the perceived center of the $1.5

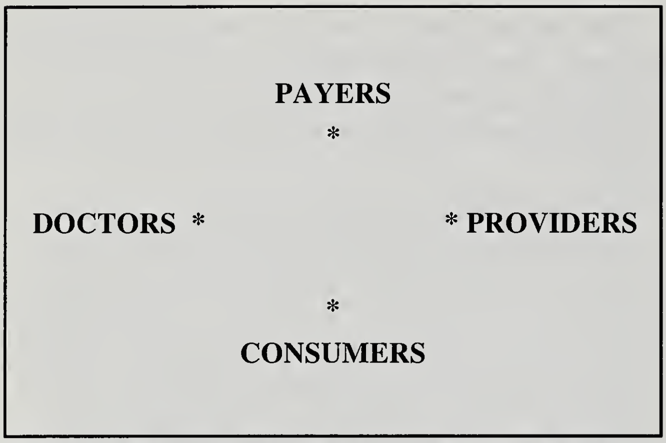

Figure 6.—The Magic Diamond, as envisioned by Jim Clark, founder of Healtheon.

Source: The New New Thing, A Silicon Valley Story, W.W. Norton & Company, New York London, 2000,

trillion health-care industry. These include Cybear, drkoop.com, Mediscape, Medilogic, eEclipys corporation, Medsite.com, Healthcite.com, Neoforma, and a company with which I am affiliated, Vpmanager.com. Collectively, these companies are known as "E-health Connectivity Corporations."

What these companies' visionary leaders see, among other things, is the opportunity to connect 600,000 disconnected doctors with each other and with patients, consumers, health plans, hospitals, and other "players." Is the health-care industry ready to move at Internet speed? That is the $1.5 trillion dollar question. The biggest challenge is getting doctors to use Internet services. When Healtheon acquired Careinsite.com and Medical Manager Corp, on 15 February 2000, it claimed it had relationships with 400,000 doctors, but it had no idea how many were actually using the net. "We are waiting to see the number of doctors actually using the Internet," said William McKeever, a PaineWebber Securities analyst. "They run the gamut from just signing up to visit a physician protocol to using the Internet for transactions."[25]

Meanwhile Healtheon has sought to seize the center of the health-care system creating a long list of alliances and acquiring 80 other Internet companies. In so doing, it has become the dominant online health-care company. But now it is confronting reality. How much longer will investors tolerate losses? The big question remains: are doctors going to use this thing?

And so the investment and health-care world wait to see if doctors will embrace the Net. Will they or won't they, and how soon? Meanwhile, the big E-health portals are throwing everything but the kitchen sink at doctors in the way of services (Fig. 8). As the world waits for the universal Internet solution, the health-care community is trying various approaches to make the Internet more palatable and useful to practicing physicians.

First Approach: Hospitals Introducing Comprehensive Systems to its Physician Groups

Doctor James Nuckolls, medical director of Carilion Health Systems, a large integrated hospital system in Roanoke, Virginia, and a member of the *Physician Practice Options* Advisory Board, says his hospital system

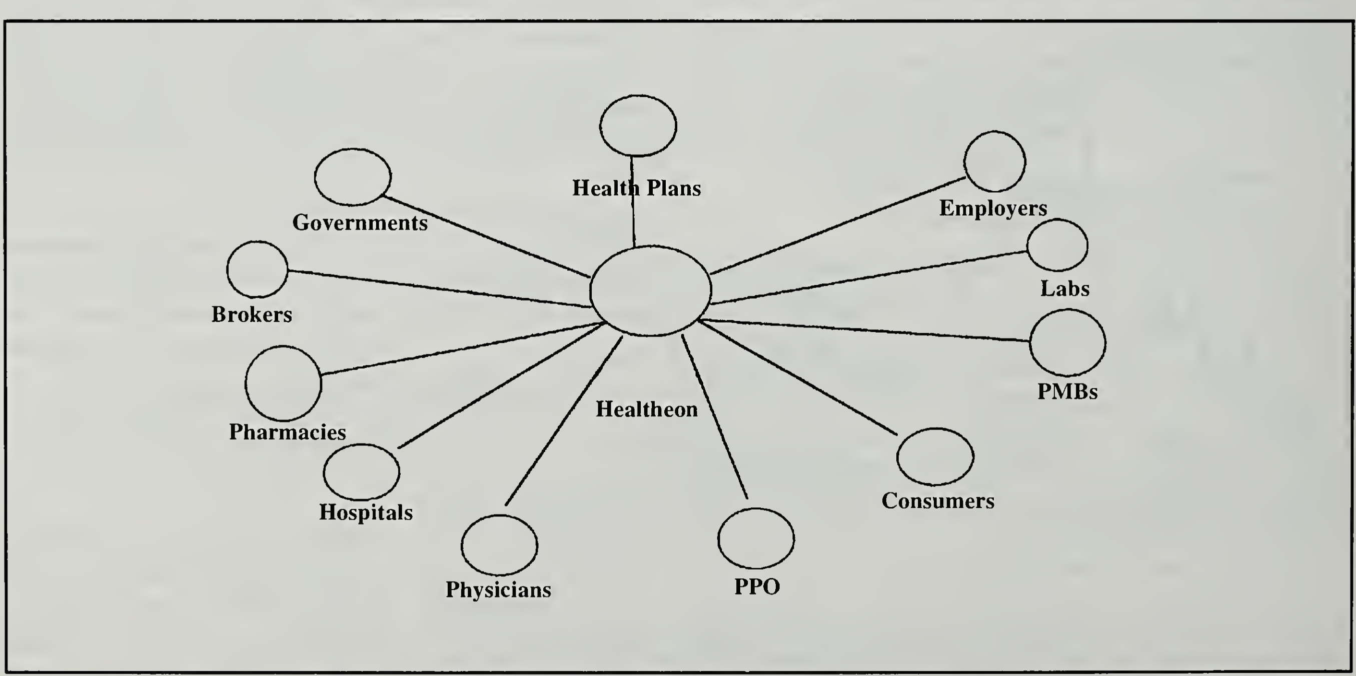

Figure 7.—The revised and expanded Magic Diamond, now called the Chart of Many Bubbles. This depicts the Healtheon strategy for being at the center of connecting the various pieces of the health-care industry.

Source: The New New Thing, A Silicon Valley Story, W.W. Norton & Company, New York London, 2000,

Figure 8.—Comprehensive physician services now being offered by three major E-Health care portals. Other portals have a similar mix of services. The greatest problems in marketing these portals to physicians are: 1) achieving brand name recognition; 2) differentiating one portal from another; and 3) getting physicians to consistently use portals in the course of their daily practice.

"Connectivity" Company Portals		**Healtheon/web MD, www.webmd.com**	**Medicalogic/Medscape, www.medscape.com**	**Medisconsult. www.pol.net**
Mode of connection	Hardware needed	Computer with internet access	Computer with internet access	Computer with internet access
	Software available	web-based	web-based	web-based or POL software
	Included in Fee	Additional fee	N/A	Additional fee
	Membership Fee	$29.95/month	Free	Free
	Secure e-mail account	Yes	Yes	Yes
Continuing medical education				
	CME on-line?	Yes	Yes	Yes
	Access to associations and speciality organizations	Yes	Yes	Yes
Practice management tools				
	Guidelines and pathways	No	Yes	Yes
	Employment and recruiting	Yes	Yes	Yes
	Referral servies	Yes	No	No
	On-line insurance verification	Yes	Yes	Yes
	Claims processing	Yes	Yes	Yes
	Claims status	Yes	Yes	Yes
	Lab order/results	Yes	No	No
	Personal organizer	Yes	No	Yes
	Create your own web site	Yes	Yes	Yes
	Dictation and transcription services	Optional	No	No
Clinical management tools				
	Links to medical databases	Yes	Yes	Yes
	Access to on-line textbooks	Yes	Yes	Yes
	Links to peer-reviewed journals	Yes	Yes	Yes
	On-line purchasing of books and medical supplies	Yes	Yes	Yes
Customization capabilitues				
	Specialty-specific information	Yes	Yes	Yes
	Information further customized to individual needs	Yes	Yes	Yes
Patient resources	Disease-specific information	Yes	Yes	Yes
	Patient-support resources	Yes	Yes	Yes
Medical news	Peer-reviewed medical articles	Yes	Yes	Yes
	General/government publications	Yes	Yes	Yes
	Medical meeting planning	Yes	Yes	Yes
	Medical news headlines	Yes	Yes	Yes
Social information	Current events	Yes	Yes	Yes
	Travel	Yes	Yes	Yes
	Lifestyle	Yes	Yes	Yes

spends as much as $35,000 per physician per year to install and keep its combination of an Intranet, internet, and comprehensive office information system up and running. John Haughom, MD, senior vice president for health care improvement for Peace Health, a system of five hospitals and four medical groups in Alaska, Oregon, and Washington, says his hospital system invested six months and considerable money to develop an Intranet, a website, and a community health record. And Frank Rhie, M.D., M.B.A., chief executive officer for Alteer Corp., a company in Irvine, California, advocates a systematic approach to manage workflow in physician offices.

Physicians spend about 2% of their gross revenues on information technologies, compared to 10% invested by other industries, such as insurance, banking and airlines. Physicians have been reluctant to invest because comprehensive systems have not been proven on a broad scale to increase physicians incomes or productivity.

Second Approach: Application Service Providers for Medium and Large Groups

Recently, as a less expensive alternative to internal comprehensive systems, a new breed of informational company has emerged.

This new organizational breed goes by the name of "Application Service Provider." It outsources information and business functions over the Net. On February 15th I interviewed Dave McComb, vice president of OrganicNet, Inc, an Application Service Provider in San Francisco, and James Snyder, M.D., vice chairman of the Department of Medicine, University of Nevada School of Medicine, Las Vegas. They said Application Service Providers, or ASPs, can cut software costs of physician practices. Snyder defined an Application Service Provider as an organization that "hosts, deploys, and leases software applications over the Internet from a centralized network facility that it manages." McComb added, "Some IT industry analysts estimate that the total cost of hosted applications can be 25% to 30% less than licensing and managing applications internally."

Third Approach: "Chunking" for Small or Solo Practice

I advocate another approach to make physicians comfortable with the Internet: it is called "chunking" and consists of offering physicians practical solutions one-at-a-time for complex office problems. Give physicians "solutions" at the right price, which is free over the Net, and they will become true believers.

Keep in mind that the physician world is made up mostly of small practices. Groups of 10 or less physicians still make up 70% to 80% of practicing American physicians. Sixty percent of these physicians are in groups of five or less, 33% in groups of two or less, and 25% are still solo. Small groups tend not to have the resources, skill, or confidence to attack the Internet head-on.

"Chunking," a term coined by journalist Kevin Kelly, author of *New Rules for the New Economy: 10 Radical Strategies for a Connected World* (Penguin Books, New York, 1998) is a concept that describes how nature constructs complex systems from the bottom-up with building blocks that have proven themselves able to work on their own. "Chunking" means that a good approach to building complex systems is to start small. Experiment to see what works, then link the pieces together in a system that fits your practice style and not the top-down style or the computer construct of the big management company.

A "Chunking" Example: Linking Speech Recognition to Clinical Templates

For small or solo practices, "chunking" is a natural way to go. For example, Dr. David Bright, a 48-year-old solo family practitioner, in Stuart, Florida, and his physician assistant, have "chunked together" an integrated system and have been "live" for two years. They use Dragon 4.0 speech recognition software linked to clinical, referral, dictation, patient education, and prescription templates.

Using their "chunked" system, Bright and his PA see 50 patients a day in six examining rooms. At the end of the day, they've completed all their dictations, in the process saving $15,000 in transcription costs a year. They work and talk their way through the day by "naturally speaking" to voice recognition software and calling up the appropriate templates to dictate, prescribe, and refer. The reliability of their speech recognition is about 98%, "good enough for our purposes," says Bright.

"Chunking" has allowed Bright to build a complex integrated system out of simple systems that work well alone and are capable of operating independently. In addition, they are paying for the system as they go. They test each software component for clinical usefulness, calculate its return on investment, and then add the next simple system that works well on its own. Bright says his "integrated" system, gerry-rigged out of software from other sources, has paid for itself along the way.

Besides, "chunking" may spare some harassed physicians the difficult, time-consuming, and energy-draining experience of listening to hours of presentations by information company representatives on how to reorganize practice to fit your system. Bright says he has listened to more than one such presentation and usually returns to his office seething with frustration that "they" do not understand "his" complex problems.

“Chunking” Doesn’t Require Large Up-front Expenditures

Practical solutions to complex clinical and business problems don’t require $30,000 to $50, 000 or more of up-front investment by each doctor. If you are a solo practitioner and you want to dictate reports over speech recognition software, for instance, all you need is a personal computer and printer (roughly $1,500), professional speech recognition software ($200 for Dragon 4.0 or $150 for Voice Via IBM), and a good soundboard for your computer (“Buster” software runs about $70).

Furthermore, many practical solutions are free over the Internet. As Kevin Kelly, the Internet guru and editor-at-large for *Wired Magazine* says “Because prices move inexorably towards the free, the best move in the network economy is to anticipate this cheapness… the natural extension of this logic says that the most valuable things of all should be those that are ubiquitous and free.”

Go for a Free Ride

Let’s say you’re concerned your overhead is out of control for a practice of your size and your specialty, and you fear you’re letting money fall through the cracks because of miscoding, or you’re hiring too much staff to do what needs to be done. For free, you can have your income-expense figures compared to similar practices in your part of the country and have your coding compared to HCFA norms through Vpmanager.com. What’s the catch? The catch is if your practice is out-of-line in its business processes and your coding is noncompliant to HCFA guidelines, you may require an outside consultant to help you straighten things out. And for that consultant, you pay.

Complex Problems, Practical Solutions

I’ve identified a series of complex problems and practical solutions through talking to thousands of practicing physicians and scores of physician “technogeeks” and practice managers who have created straightforward solutions to complicated problems. Many practice-building physician-support services are free over the Internet; a few require purchase of CD-ROMs. The physician’s only significant investment is an office-based personal computer, most of which can now be purchased for under $1,500, and access to the Internet through traditional servers, such as AOL, Compuserve or Yahoo! A few of these current solution services are shown in Fig. 9.

Concluding Remarks

The health-care world is in a state of turbulent transition from care organized around hospitals to care organized around physicians intensely connected via the Internet to other health-care players. The biggest obstacles in making this transition are hospitals’ understandable reluctance to “let go at the top” and physicians’ lack of comfort with the Internet. The current services being offered—health information, chat rooms, customized medical information for specialists, ordering books and supplies, and ordering lab results—are of marginal interest to physicians. Other services, such as scheduling appointments, checking lab results, and checking insurance eligibility will draw more interest. But those services that are likely to put the Internet across in the physicians’ minds are free, inexpensive “chunks” of information that offer practical solutions to common office business problems—how my practice compares to others, how to code to generate decent revenues without inviting HCFA audits, how to create and use Websites to market my practice, how to use e-mail and the net to reduce the use of the phone, how to coordinate the work and information flow in the office, how to customize patient care and education information, and how to increase productivity without sacrificing, indeed, maximizing, time with patients.

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Figure 9.—Examples of "chunking" services, free or inexpensive practical Internet solutions to common complex problems encountered in clinical practices.

Complex problem	Practical solution	Approximate cost	Practice benefit
Alerting and educating your patients to health dangers of obesity, inactivity, hypertension, and bad blood lipids	HealthStatusIQ™, available as CD-ROM	$99 for CD-ROM	Helps establish your practice as center for health and wellness education, attracts new and loyal clientele, gives patients tool to track their health.
Seeking online CME credits	CME-online.com, developed by Milliman & Robertson. You may wish to search "CME" credits on the net, or to visit such sites as Medsite.com or Medscape.com.	$69 per CME credit	First course is "Positioning your practice for 2005," an informative interactive seminar to help you prepare for the future practice business climate.
How to guide patients to well-managed personal care once they leave your office	Healthcare Companion™, available as booklet or CD-ROM, patient guidelines developed by Milliman & Robertson to assure better care outside the office setting.	$35	Reduces calls to office, helps market practice and retain loyal patients by addressing issues of when to call doctor, when to go to ER, model Rx including OTC drugs, when to go to specialist.
Depression may masquerade as impaired work performance, absenteeism, disability, and health care over-use.	The HANDS™ Screening Tool, a 13 point single page questionnaire developed by Harvard Department of Psychiatry	Free, may obtain calling 781-239-0071 in Wellesley, MA or by directing patients to http:depresson-screening.org	Spotting depression quickly can practice time and money and can result in early treatment. This is primarily a clinical productivity tool to serve as triage.
If you're a busy specialist practicing in multiple locations, you may have difficulty consistently capturing the right codes at the point of care.	Mdeverywhere.com, a Durham, North Carolina, company has developed a code capturing device, entered by the physician on a Palm™ handheld computer, and then downloaded at the physician's convenience, over the Net.	Costs are about $2 per transaction entry. More details can be obtained through mdoptions.com linkage or through the mdeverywhere.com website.	In the hands of Duke University surgeons, the mdeverywhere.com systems has increased revenues by $25,000 per physician and cut transaction costs by about $15,000 per doctor per year. Free Palm pilot comes through using the service.
Writing legible prescriptions and transmitting those prescriptions to pharmacists is a complex process fraught with errors.	AllScripts.com and ephysician.com are leaders in electronic prescription services.	Consult websites for cost. Ephysician uses Palm™ handheld computer to prescribe anywhere, anytime. Giving away 10,000 Palm pilots to doctors. AllScripts uses portable small computer, TouchScript, a personal prescriber™ that takes 20 seconds, and 3 touches to send prescription to local pharmacy, mail order, or Internet drug firm.	These systems have the virtues of medical information on drugs, drug interactions, and safety. Speed up prescribing save time, generate more revenue from in-house pharmacies, and eliminate safety problems of handwriting illegibility and minimize drug interactions.

(continued on next page)

Identifying right CPT-4 code to assure proper compensation and HCFA compliance	Paladin™, an expert E&M coding and HCFA compliance system.	CD-ROM, $69 to $99, requires about 30 to 60 seconds per patient to arrive at right code.	The typical physician undercodes an average of $20,000 a year to avoid HFCA prosecution.
Assessing financial status of practice compared to similar practices of similar specialists.	Vpmanager.com	A free internet service. If follow-up consulting requested, they will be provided on fee basis.	Most physicians don't know how they compare or "benchmark" against similar practices. This services lets you know how you stand financially, and identifies your staffing, overhead, and productivity variances compared to other practices.
Analyzing your overall coding practices.	Vpmanager.com	A free internet service. If follow-up consulting requested, will be provided on fee basis.	Analyzing your overall coding patterns helps you understand where your revenues are coming from and what you can do to enhance them.
Appraising the value of your practice, loans, and recruiting new physicians.	Vpmanager.com	A free internet service to discuss problem. Appraisal, loans, and recruitment will be on fee basis.	Physicians who are retiring, whose practices are being acquiring, or who are bringing in new partners often need a practice appraisal by a third party.
Evaluating HMO and PPO contracts	Vpmanager.com	A free internet service	In US, about 1500 health plans I exist, each with its own set of utilization rules. This services helps your office staff quickly know the rules without resorting to phone calls.

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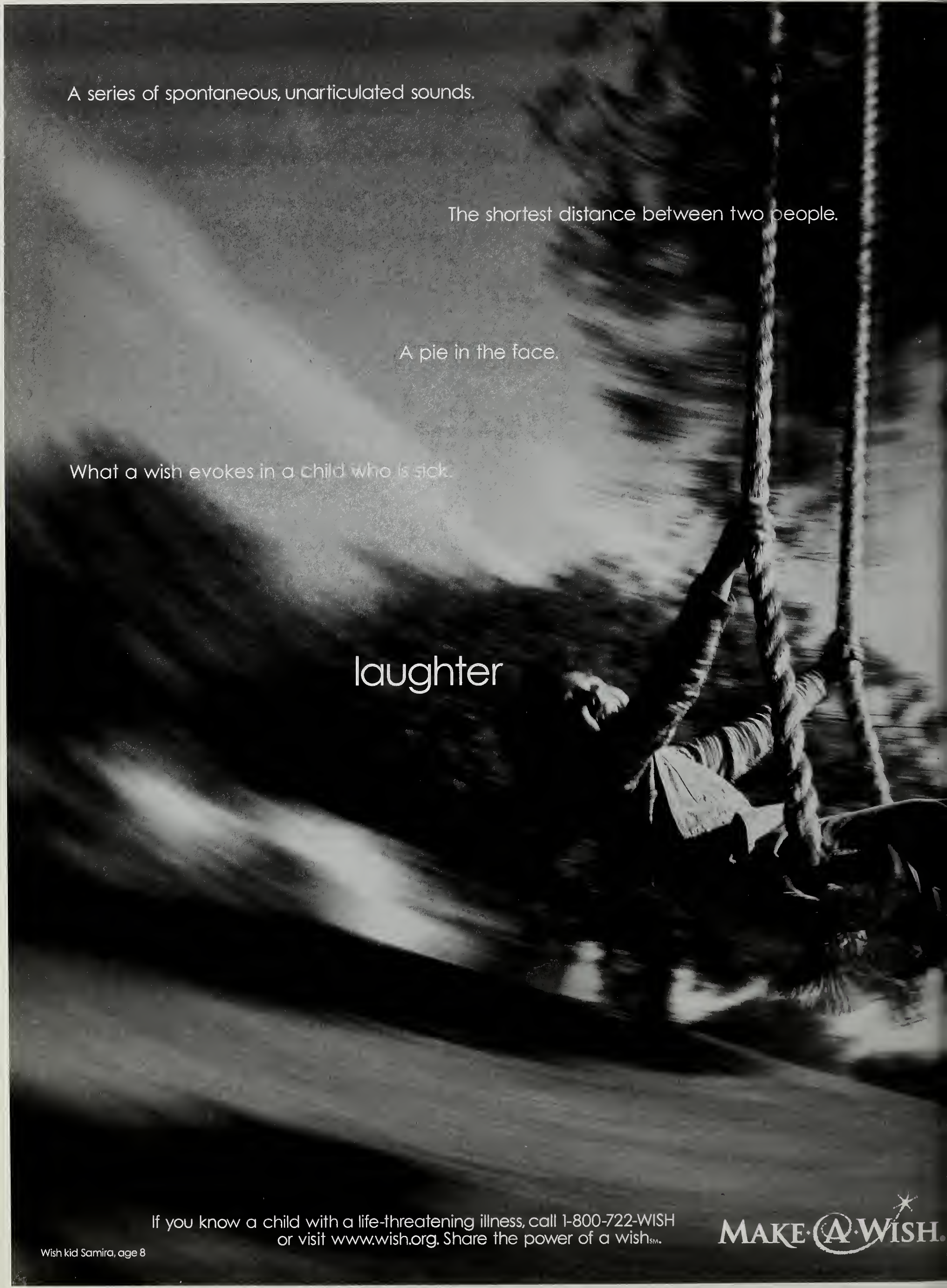
A series of spontaneous, unarticulated sounds.
The shortest distance between two people.
A pie in the face.
What a wish evokes in a child who is sick.
laughter
MAKE·A·WISH.

If you know a child with a life-threatening illness, call 1-800-722-WISH
or visit www.wish.org. Share the power of a wish℠.

Wish kid Samira, age 8

Dr. Gurdon Wadsworth Russell's Account of the 1853 Railroad Accident at Norwalk, Connecticut

A Commentary on the Person, the Times, and the Event

MICHAEL MITTELMANN, M.D.

Introduction

AT the start of the new millennium, we find that barely a year passed during the 19th or 20th century without major catastrophic train accidents taking a great toll in human life and in economic loss. Tragedy becomes part of the fabric of the day and the times whether it is an accidental injury involving an individual or a mass casualty disaster. So it was in May, 147 years ago, when the railroad accident at Norwalk, Connecticut, blended with other events throughout the world and entered life's continuum for the individuals concerned. The objective of this paper is to offer a brief historical commentary and to provide the firsthand account of the accident itself by Gurdon Wadsworth Russell, M.D. (1815–1909). It is believed to be the first written account of a railroad accident by a physician who personally witnessed and professionally reported on what happened and about the people involved. An abbreviated version was presented as the President's Address of the 1985 Annual Meeting of the Hartford Medical Society. Generally available resources for historical information have been used or updated and are readily available to health-care professionals, railroad historians, students, and others.

The Person

Dr. Russell's imprint on the history of medicine in Hartford and Connecticut is well documented in his many personal publications, local community chronicles and archives of the insurance industry, and medical organizations.[1–4] In 1853, he was 38 years old having graduated from Yale Medical School 15 years earlier.[3] The Connecticut State Medical Society was in its 62nd year and would have Dr. Russell serve as its president in 1871.[5] Russell's first wife, Sarah Elizabeth Tuttle, on 5 January 1853, gave birth to their daughter, Elizabeth Hotchkiss Russell, who died about two years later.[6] The Hartford Medical Society that he helped found was celebrating its seventh year. At the Society meetings, Dr. Russell's colleagues, Drs. E.K. Hunt, Samuel Beresford, David Crary, Sr., George Sumner, James Jackson, and others discussed Dr. Horace Wells (1815–1848) and his work on anesthetic agents.[7] Wells' profile is preserved on the seal of both the Hartford Medical Society and the Hartford Dental Society. Planning for the Hartford Hospital might have been an agenda item between 1851 and 1854. The 1902 Geer's Hartford City Directory revealed that Dr. Russell was the Hospital's president and chairman of the Medical and Surgical staff.[2]

Two months after the train accident, Aetna Life Insurance Company's first Board of Directors met on the fourth of July. Dr. Russell started work with the Aetna in 1850 and continued as Medical Director until 1902.[3] He pioneered the newly developing field of life insurance medicine and underwriting and, in 1889, was elected the first vice president of the Association of Life Insurance Medical Directors of America.[8] In that same year, the Hartford Medical Society was incorporated. Dr. Russell was its president from 1889–1893.[7]

The Times Circa 1853

While we do not know if, or how, Dr. Russell voted, Franklin Pierce, the Democrat from New Hampshire, was inaugurated as the nation's 14th president and at the time its youngest. Pierce's 11-year-old son, Benjamin, was killed in Andover, Massachusetts on 6 January 1853—the victim of a railway accident.[9,10] Jefferson Davis, who

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MICHAEL MITTELMANN, M.D. ,West Hartford, Trustee of the Hartford Medical Society.

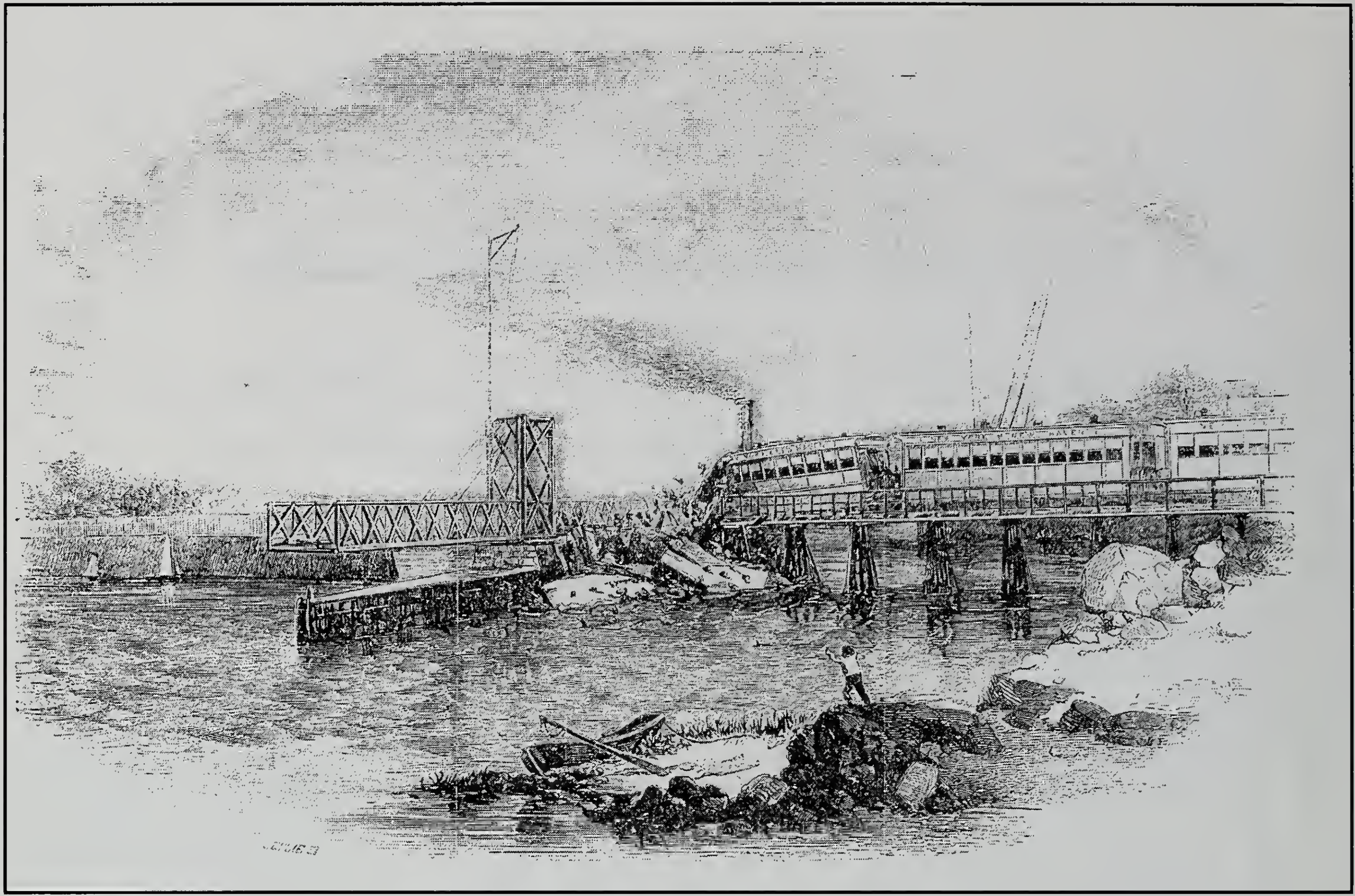


Figure 1.—Originally entitled "The Catastrophe," the illustration depicts the accident site at the drawbridge with a portion of one passenger car assumed to be the one in which Dr. Russell was riding. The engine struck the abutment followed by a baggage car, two mail cars, and two and one half passenger cars.

would later become President of the Confederate States, was appointed Secretary of War by Pierce. It is said that Davis directed valuable surveys for a railroad to the Pacific.[11] On the other side of the world, Commodore Matthew Calbraith Perry, U.S.N., presented letters and credentials to commissioners appointed by the Shogun or Military Governor of Japan. One provision of the treaty, signed later on, allowed for care of the crew of vessels washed ashore on the coast.[12,13] Wedding bells rang in France at the January nuptials of Eugenie Maria de Montijo de Guzman and Napoleon III (Charles Louis Napoleon Bonaparte). She remained the Empress of the Second Empire from 1853 until 1870. Rapid development of French rail route miles occurred during this period.[14–16] Troubles leading to the Crimean War (1853-1856) brewed furiously, and places like Moldavia, Wallachia, and Bakaklava soon presented a medical nursing nightmare for Florence Nightingale.[17,18] In the United States, Mark Twain (Samuel L. Clemens) might have blown out 18 candles on his birthday cake, if that was the custom in Hannibal, Missouri. Bordering on the Mississippi River, Hannibal was developing into the eastern railhead of the Hannibal & St. Joseph Railroad.[19]

Laura Kinsbury conveyed the property on 125 Market Street in Hartford to George Beach for $7,000. It originally belonged to Dr. Normond Morison, a physician, before the Revolutionary War. He is buried at the site with his son, Allan, a smallpox victim.[20]

The Wadsworth Atheneum, named after its benefactor, Daniel Wadsworth, had a 10th anniversary. Today, the Atheneum is recognized as a thriving and internationally renowned art museum.[21] Only a few city blocks away, the Sharps Rifle Manufacturing Company constructed an arms production plant along Park River to take advantage of a railroad line built in 1838.[22] Plans are presumed to have been on the drawing board for the Colt Factory erected in 1855, still considered part of Connecticut's high technology triangle, namely, Hartford–Stratford–Groton.[23,24] Out in the west, part of the land occupied by the State of Arizona was included in the James Gadsden Purchase for $10,000. President Pierce named Gadsden, formerly a president of the South Carolina railroad, as Minister to Mexico.[25,26]

During the year, Dr. James Marion Sims (1813-1883) moved from Alabama to New York and published a treatise on vesicovaginal fistula. Most clinicians are fa-

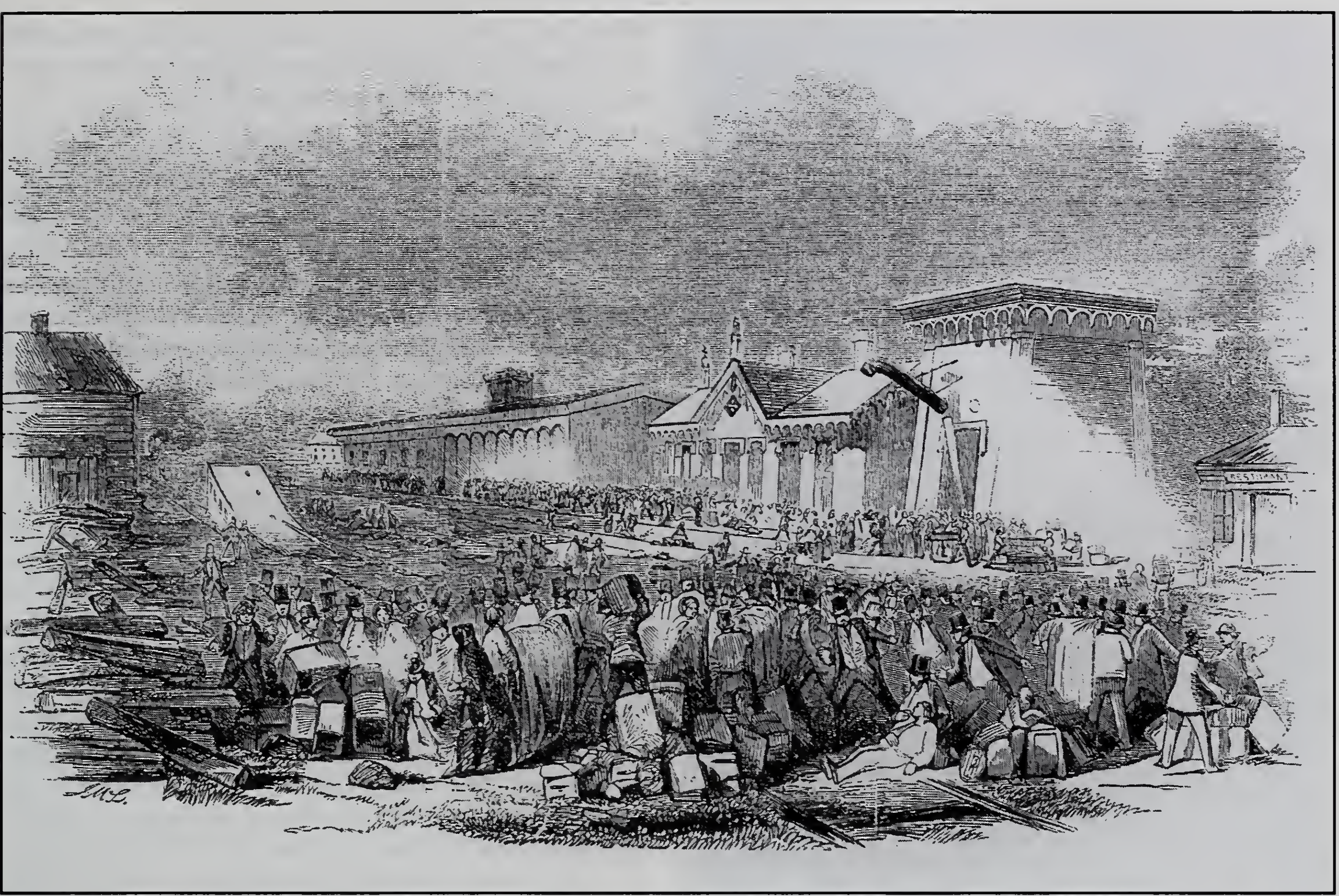


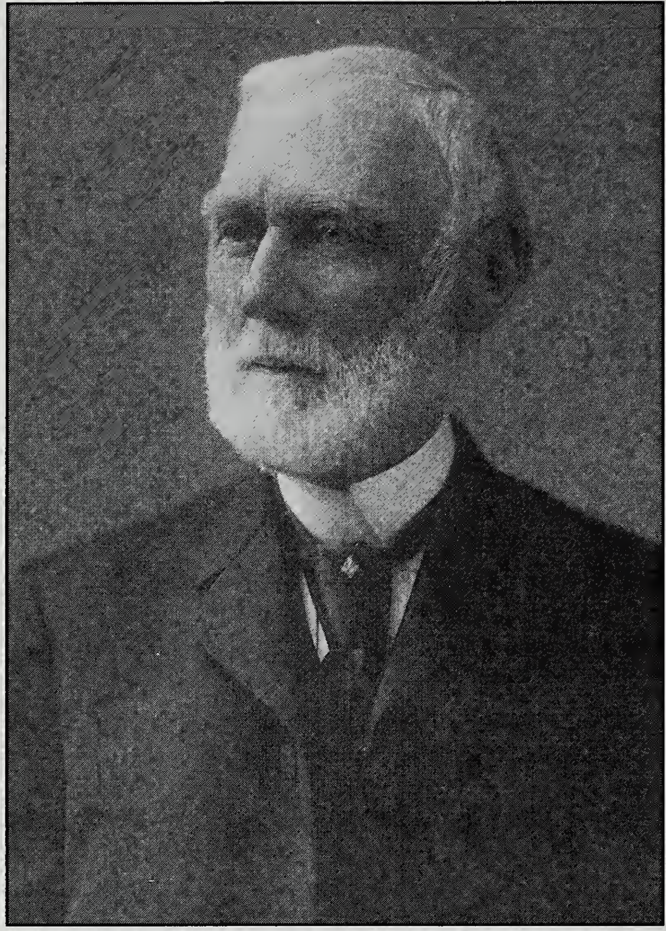
Figure 2. – The artist completed the illustration, captioned "Scene at the depot after the accident – bringing in the bodies," sometime between the date of the accident and the publication date, 14 May 1853. The crew of a nearby sailing vessel, survivors including several physicians, and townsfolk assisted in rescue attempts and care of the injured.

miliar with the Sims' lateral examination position and the vaginal speculum he invented.[27] Meanwhile, struggling across the massive expanses of Africa without the benefit of any rail line, was David Livingston (1813–1873). The 40-year-old Scottish missionary received his medical degree from the Faculty of Physicians & Surgeons, Glasgow. The much publicized meeting with Sir Henry Morton Stanley in Ujiji, Tanganyika (now Tanzania) took place after eighteen more years of exploration and research.[18,28]

A 380-page monograph entitled "On the Structure and Use of the Spleen" won the Astley Cooper prize and another paper was published in the Medico-Chirurgical Proceedings. Then the author, Henry Gray, FRS, FRCS wrote the Anatomy of the Human Body before he died of smallpox in 1861 at the age of 34.[29] One should recognize that the established concept of planned and organized sorting of civilian or military mass casualties had certainly not been the 1853 standard of practice. Beebe and Clegg stated that in "the wrecks of the 'forties and fifties'.... few passengers emerged from collisions or derailments merely maimed."[30] Jonathan Letterman (1824–1872), as Medical Director of the Army of the Potomac, would develop the technique known as triage (from the French: *trier* to sort).[31] The management of casualties is still being improved and refined from primary field locations to major trauma centers.[32]

The Event

Parallels in history resemble our image of the parallel lines of railroad tracks—both are marred from time-to-time—but they persist and even shine in places we do not often see or remember.[33] Danger Ahead, the current Internet site that specializes in historic railway disasters, describes the first-ever fatality on a passenger railway at Parkside, UK.[34] William Huskisson, Member of Parliament, died on 15 September 1830 as a result of wounds sustained when a locomotive (The Rocket) struck him on the Liverpool & Manchester Railway seventeen miles from Liverpool. Documentation, such as that just cited, provides a fragmentary sense of the vast amount of historical information that may be found on the subject of railroads, train accidents, and related human factors. Hardly a day or month passes without reports concerning rail incidents around the world.[35,36] Furthermore, the families and the general public know the results, almost instantaneously in all media formats. Details regarding worldwide or Con-



Gurdon Wadsworth Russell, M.D.
circa 1897
from the Library of the Hartford Medical Society

necticut incidents, cost data, safety considerations, liability claim issues, and statistics exceed the limitations of the commentary.

The first signs of Connecticut's railroad system, according to Bingham's History of Connecticut, emerged with the completion of the New York & New Haven line in 1848.[37] So, it must have been with a great deal of excitement that passengers boarded the train (at 8:00 am.) that was said to have been a fast, new one recently put on the New York to Boston run by the New York & New Haven Railroad. Dr. Russell and other physicians were returning from the Sixth Annual Meeting of the American Medical Association in New York.[38, 39] That meeting had begun on Tuesday, 3 May 1853 at the Bleeker Street Presbyterian Church. In his account of the event, Dr. Russell refers to Dr. Archibald Welch.[40] He received his honorary M.D. degree from Yale in 1836 though prior to that he belonged to the Windham County Medical Association (1825) and the Hartford County Medical Association (1833). In 1846, Dr. Welch of Wethersfield, was President of the Connecticut State Medical Society.[5,39] Welch was one of at least seven physicians who were killed. Russell could be counted among the pallbearers representing the Hartford Medical Society.[4]

Richard Hooker, the historian, suggests that Dr. Russell's account may have been the first personal interview reporting on a major event and printed in any Hartford newspaper.[3] Furthermore, it is believed to be the very first eyewitness description by a physician at the scene of a major train disaster – Friday, 6 May 1853 at approximately 10:30 am. The article "The Accident at Norwalk" is quoted verbatim from a microfilm version of *The Hartford Daily Courant,* Saturday, 7 May 1853.[40]

. . . .

Dr. Gurdon W. Russell, of this city, who was a passenger on the train which met with such a terrible accident at Norwalk, has, at our request, hastily written the following statement which will be read with melancholy interest: Statement of Dr. Russell of this City—"Having been in cars at the time of the late sad affair at Norwalk, I give you the following particulars. The first thing that I noticed was a waving and jerking of the cars, not very severe, but enough to show that an accident of some kind had occurred. It was so different, however, from what I had supposed to be the case when cars are off from the track that I thought that they would soon be stopped and that we were safe. This was but for a moment, for the breaking of the glass and of the car showed that something terrible had already happened or was about to happen, for at this time I supposed that the one we occupied was the only car injured. There came then a shaking and a crash and a stop, and in a moment, the work was done. The front of the car and part of the side were broken out, and the floor had broken off just in front of me, one end resting on the bridge and the other on the cars in the water below. So sudden and rapid was the whole affair that we had but time for a moment's thought, and it was over. Helping up those on the inclined floor of the car, who it is believed were not seriously injured, we next went down to those in the water. It was evident that here were two cars full of passengers and that one had fallen on top of the other; the upper one was inclined on its side and evidently nearly filled with water. We immediately commenced taking out the inmates at the windows, and soon got out a large number, some injured, some bruised, and many, ah, far too many, dead.

Assisting here till my services seemed to be needed elsewhere, I left to aid in resuscitating those brought on shore. This was effected, as far as I can learn, in but one person, and excepting in those got out safely, the rest were dead.

These were, apparently, not killed in the majority of instance by bruises or severe blows, but presented all the symptoms of asphyxia from drowning, and were probably drowned at once, being confined and pressed by broken cars. Oh, what a melancholy scene that! Certainly forty perhaps fifty persons killed in an instant, without a moment's warning, in the full confidence of security. This had probably been more than equaled before in the number of its mangled, agonized, half-living bodies, for here death scarcely touched his victim but to secure him, but the shrieks of the terrified women and children, the supplications of those in the water below for succor, added to the horror that shot through us as we glanced at the work of destruction, formed a scene and existed emotions which can never be forgotten.

The explanation of thankfulness to God for my preservation, was followed by thought of my narrow escape, which was pressed home upon me still more closely when I recognized lying among the dead, him for whom I had given up my seat in New York, and had taken the succeeding car, - he who had traveled from Georgia in safety so far, with the seeds of disease so implanted in him that it was doubtful if he could reach home, was taken, and I was left, and then the remembrance of that solemn supplication in the litany, "From battle and murder, and from sudden death, good Lord deliver us." Following upon this were thoughts of home and its happy inmates; that I had been in the bottom of the wreck, what wretchedness, what darkness had been there, and yet the same that I pictured for myself will be felt in many families, and my sympathy was turned to them.

About half hour after this, word was brought to me that Dr. Welch was among the dead. This I could scarcely credit, as I had not seen him in the cars at starting, and as we had been much together in New York, I thought I should have noticed him, had he been present; nor had I seen him amongst the dead—and so, I concluded that he remained behind until afternoon. But he was dead—that was evident at the first glance and though I did not refrain from my efforts at resuscitation, I could have but the faintest hope of success, for medical men know to be true, what is contrary to the general impression, that but a few minutes of complete submersion in water is sufficient to produce death. When I last saw him the evening before in that happy, festive gathering, so full of animation, little did he, nor I, or anyone, suspect such an unhappy termination of that happy scene: how deeply do I, as must the whole community, sympathize with that unhappy family in this sudden affliction.

I will not say that this accident happened in this way, for I can use not such terms as this, nor will I take it upon me at this time to use a much harsher expression, but as near as I know of myself, and can learn from others, will state the occurrence. As I have said before, I knew of nothing unusual until the waving, uneasy motion of the car: there was no apparent slackening of the speed, nor, as I remember, anything leading to the inference that we were near a draw—this was the express train, and had left New York at 8:00 o'clock in the morning; turning a sudden curve, where it was, it is said, impossible to have stopped, it was in a moment plunged through the open draw into the water and mud below; first the locomotive and tender, then the baggage car, in which were five or six persons who were saved, and which fell upon the locomotive, and then a passenger car, and then another upon this, and then another, which fell over, broke in half. Two full passenger cars were thus in the water, and a third in part resting upon them. As it was high tide, the water was said to be from nine to twelve feet in depth, and I should judge the distance from the bridge to the water to be as much as fifteen or eighteen feet. Two cars remained behind, uninjured. Such was the impetus of the train, that the locomotive in passing, struck, it is said, or nearly struck the opposite pier. The engineer jumped off just before the plunge, and it is reported is not much injured. The draw was open for the purpose of letting through a steamboat, which, itself full of passengers, narrowly escaped being crushed.

Now the question which first arises, and which everyone very naturally asks is this, "Upon whom rests the blame?" Without intention of prejudging anyone, there can be no objection to stating here what has been stated elsewhere. Mr. Ferre in his testimony before the inquest said he was in a small boat about leaving for the purpose of hunting; the draw was opened for the steamboat; that the ball had been dropped at least ten minutes; this is the signal, a large red ball, which can be seen at the distance of half mile, but which is not plainly seen nearby, and when down signifies that the draw is open. He thinks the drawmaster not to blame at all, for the ball must have been down for ten minutes, and that whoever had charge of the train is mainly liable for the accident which occurred—that the cars came along at a strong speed—that the locomotive went across against the pier, and that the cars as they went off were crushed together like eggs. He had a full view of the whole affair, and, in his opinion, the engineer was the man who is to blame. In justice to the engineer, it should be stated that he is reported to say, for I have not seen him, that the ball was up; meaning that the draw was closed, and that there was no danger. The truth in the case will soon appear, but the above is as much as I could learn at the time. This occurred at a little past ten, and between ten and three, a train was enabled to pass the draw. The conductor, Mr. Comstock, was in one of the forward cars, and was considerable injured about the head and body, but not, apparently, seriously.

Just before we left, I counted thirty-eight dead bodies,—men, women, and children,—two more, it was said, were dead, and more were seen in the water and mud. Many physicians were returning from the medical meeting in New York; as many as six are dead; perhaps 15 or 20 were in the train; more of them would have been on had they not delayed until afternoon, or the next day; the loss falls heavily upon them, and taken away very worthy men. Mr. Burrall, the President of the road, soon came up from New York and with other officers rendered all possible assistance...."

. . . .

There are no known follow-up accounts by Russell in the medical literature or his later writings. Other newspaper dispatches; eg, *Illustrated News*, were published on the same or subsequent dates and research into the outcomes or results of investigations will be left to future historical researchers.[41] Two drawings from *Illustrated News* appear in Figs. 1 and 2. They are said to afford "truthful and spirited representations of the scene."[41] Daguerreotypes of the event have not been discovered. With the benefit of accounts by Turner and Jacobus, Shaw, and others, the essential elements of accident are summarized (Table 1).[36,40,42–46] At this time, the Internet site, Danger Ahead does not annotate the accident.[34] With the advent and rapid advances of electronic media over the past decade, an abundance of information and resource materials exists pertaining to all aspects of railroad history, museum collections, safety, and international developments. However, one wonders whether the written words and the profound emotions, as expressed by Dr. Russell or others, will ever be as eloquently delivered.

Table 1.—Summary of May 6, 1853 Railroad Accident Data

Location: Norwalk, Connecticut 300 yards from RR depot

Date: May 6, 1853 approximately 10:30–11:00 am.

Railroad: New York and New Haven RR express en route to Boston

Cause: Passenger train, 15–25 mph through open drawbridge

South Norwalk Bridge height above water level: approximately 25 feet

Water depth: Eight to 12 feet at inlet of Long Island Sound; full tide

Total Number of Passengers/Employees on board: about 150

Number of deaths: estimates range from 46–52

Primary cause of death: drowning (asphyxiation) in submerged cars

Numbers and types of injuries: estimated 20–30: many listed as "slightly" to "seriously" hurt; one near drowning; one dislocated shoulder; one dislocated wrist; one fracture of ankle; five facial injuries; other nonspecific injuries

Negligence: attributed to NY &: NH RR substitute engineer's failure to observe signal (a red ball) indicating an open drawbridge

Claim settlements: $290,000 (est.) paid by May 19, 1855

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50 Years Ago

From *The Connecticut State Medical Journal*

May 1950

Intra-Epithelial Carcinoma of the Cervix

MARK SOLOMKIN, M.D., *Hartford*

DEFINITION

Intra-epithelial carcinoma is that stage of cancer in which the lesion is still contained within the basal cell layer of the surface epithelium. It is a mistake to designate this lesion as precancerous, carcinoid, approach cancer, or any of the multitude of complacent names which stud literature. Intra-epithelial carcinoma is carcinoma and should be considered as potentially dangerous and malignant cancer.

In discussing intra-epithelial carcinoma, I have allowed myself the freedom to digress at will from intra-epithelial carcinoma to clinical carcinoma, since in my opinion we are dealing with different phases of the same process, carcinoma of the cervix.

HISTORY

Cancer has been known for centuries. Approximately four thousand years ago Ramyanas in India advised the removal of neoplastic growths with hot irons. In the Ebers papyrus we have definite mention of "women with a devouring disease." Paul of Aegina who lived about 600 A.D. was probably the first oncologist. He was particularly interested in breast and uterine carcinoma.

In the modern era Virchow gave us a cellular definition of the disease. He based his diagnosis and understanding largely on cellular morphology.

To approach the field of intra-epithelial carcinoma more closely, in 1896 Dubreuilh[1] discussed what he considered to be "precancerous lesions" and thus focused attention on early malignant disease.

In the first decade of the 20th century and the early part of the second decade, numerous German authors, outstanding of whom were Kermauner and Schottlaender, described the appearance of carcinoma at the edge of a large clinically apparent growth.

In 1910 Dr. I. C. Rubin[2] of New York discussed "Incipient Carcinoma of the Uterus." He reported three cases of early carcinoma. Two showed invasion, but one was an intra-epithelial carcinoma. Rubin thought the changes in the epithelium to be from (1) simple metaplasia to (2) atypical epithelium that is borderline malignancy to (3) carcinomatous epithelium that is in an incipient phase. This assumption of pathogenesis was later discarded. However, Rubin obviously accepted the entity for what it is. He recognized that the diagnosis of malignancy in these instances must, therefore, rest upon the well differentiated changes in the epithelium.

In 1912 Bowen[3] described two intra-epithelial lesions of the skin, both in males. Bowen pointed out the similarity to carcinoma, but admitted difficulty in classifying them. He was sufficiently astute, however, to end with the statement: "As yet no signs of malignancy have appeared. It can hardly be doubted that such a sequence is imminent."

There were others who recognized early carcinomatous lesions but no one interpreted these as an intra-epithelial phase of cancer.

One of Kermauner's former assistants, Schiller, became interested in the problem of beginning carcinoma. Recalling Kermauner's work on "surface" cancer, he began to study so called normal cervices which had been surgically removed. In 1927–1928[4,13] he reported lo cases which he recognized and interpreted as intra-epithelial carcinoma of the cervix; cancer in which the diagnosis was based on histologic change rather than invasion. He could

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Reprinted from the *Connecticut State Medical Journal*, May 1950.

demonstrate no penetration of the basal cell layer although serial sections were done. Schiller's work was soon corroborated here and abroad. In this country the early work of Smith and Pemberton in Boston was especially noteworthy.

It is interesting that this conception of intraepithelial carcinoma did not receive the encouragement of the general pathologist. In fact, men making this diagnosis were called "radical pathologists" and were accused of diagnosing harmless epithelium proliferations as cancer. The education of the profession in the recognition of this early malignant lesion was the work of the gynecologic histopathologist.

INCIDENCE

The early reports of intra-epithelial carcinoma would lead one to suspect that this is a common lesion. Schiller's early work claimed an incidence of 3 per cent. However, as his experience increased he was able by 1933 to show his incidence to be 1.41 per cent.[9] These figures are in pretty close agreement with the findings of American workers whose figures range up to 3.9 per cent reported by Pund and Auerbach.[5] The consensus of opinion places the average close to the 1.15 per cent reported by Younge.[3]

These figures are startling at first. However, they are less so when one recalls that in each of the above series the results are based on surgical material; nor had all received the benefit of serial section to completely rule out the possibility of invasive carcinoma. While the patients were operated upon for "benign lesions" it seems more than likely that some of these women did have unrecognized clinical carcinomas. For example, Pund and Auerbach[5] reported an incidence of 3.9 per cent of 1,200 cervices, but Pund and Auerbach also report that 28 per cent of their patients had intermenstrual bleeding, a common sign of carcinoma. These concurrent findings would lead one to suspect that the actual frequency may not be exactly as reported. The quoted incidence from pathologic material must be assumed to be weighted by cases of unrecognized clinical carcinoma. That this assumption is correct is indicated by the significant difference which appears when the statistics from cancer detection centers, where the overall population is screened, are considered. In a recent such study Lombard[7] et al reported the incidence of all symptomless carcinomas of the uterus to range between 0.20 per cent and 0.53 per cent. From other cancer detection centers, where the type and location of carcinoma is reported, the incidence of intra-epithelial carcinoma ranges down to 0.075 per cent, a much different figure.

The statement has been made that carcinoma of the cervical stump is usually present in a preinvasive phase at the time of hysterectomy. For purposes of interest the incidence of this lesion was investigated. While in one series of 1,111 cases[8] supracervical hysterectomies, an incidence of 5.2 per cent of stump carcinoma was reported, the incidence in this country is generally believed to be from 1.7 per cent to 3.6 per cent.

There is extremely little known of the racial distribution of intra-epithelial carcinoma as compared with that known of clinically evident carcinoma. The only figures available are that the average age of carcinoma in situ in the negro is thirty-four and in the white female it is thirty-nine;[5] nor has the question of parity been investigated as it has been in clinical cervical carcinoma.

There seems to be agreement among most writers as to the average age at which carcinoma is diagnosed. The accepted approximate ages being:

Preinvasive cancer	36-1/2
Covert invasive cancer	42-1/2
Overt invasive cancer	48-1/2

The implication of these figures is obvious.

ETIOLOGY AND PATHOGENESIS

The etiology of intra-epithelial carcinoma, as with the etiology of all carcinoma, is, of course, unknown. The multiple and various theories range from heredity, nutritional deficiencies, hormonal abnormalities, chromosomal changes, cellular breakdowns, etc. A detailed discussion of carcinogenesis is unnecessary. The relationship of intra-epithelial carcinoma with the various benign local lesions may be briefly discussed.

Each of the benign lesions has in its turn been labeled "precancerous" and each accused lesion has been absolved. Hinselmann accused leucoplakia. Robert Meyer cleared epidermidization. Cervical polyps were eliminated. Metaplasias, lacerations, erosions, and inflammations have been investigated ,and each in its turn declared innocent.

MORBID ANATOMY AND COURSE

The changes noted in clinical carcinoma are: (1) cytology, (2) morphology, and (3) invasion. In true intraepithelial carcinoma there are alterations in cytology and morphology with no invasion. The change is identical with that seen at the margin of a far advanced carcinoma, where the lesion is still confined to the limits of the squamous epithelium.

Here is Robert Meyer's[10] description of the entity: "Cancer cells show deviations from the normal which are particularly evident in the nuclei. The chromatin content is increased and the nuclei are increased without comparable increase in the cytoplasm. The shape of the nucleus is irregular." As for the morphologic changes, Te Linde believes that first there is basal hyperactivity followed by disruption of the normal layers until the entire epithelial thickness is involved. The lateral aspects of the lesion were first described by Schiller as having a sharp oblique line of demarcation from the normal epithelium. This latter conception has been modified so that today it is thought that the lateral aspects may be either abruptly oblique or perpendicular, or that there may even be a gradual transition from normal epithelium.

The progression is usually lateral with continued spread through the squamous epithelium. Some describe the method of infiltration of the fibromuscular stroma of the cervix as an extension into one of the adjacent cervical glands. After reaching the base of the gland the growth continues into the cervical stroma. On microscopic section frequently the active lesion is seen breaking through the basement membrane and extending directly downward into cervical tissue.

This sequence of cellular changes, once started, is believed by most investigators to progress, though often most slowly, to clinically evident carcinoma. There are numerous reports that clinical carcinoma follows untreated or inadequately treated carcinoma in situ. However, the question of reversibility is still raised. It is claimed by some workers (Stevenson and Scipaides, Pund and Auerbach, and Foote) that there are cases of untreated lesions where no invasive carcinoma has developed. In reviewing these claims several thoughts arise. First, the authors have not taken into account the known latency of this lesion; second, follow-ups are incomplete; and lastly, the possibility of complete removal of the lesion by biopsy is ignored. It is the consensus of opinion that once established there is one final response—clinical invasive carcinoma.

SYMPTOMS

This lesion presents no objective signs. It is not possible to visualize or to palpate an intra-epithelial carcinoma. The gross appearance of the cervix is indistinguishable from a normal cervix. This is a lesion where the diagnosis must be established in the laboratory. When symptoms are evident we are no longer dealing with carcinoma in situ, or for that matter with an early carcinoma.

DIAGNOSIS

As the diagnosis of intra-epithelial carcinoma is a laboratory procedure, I shall try to outline some of the commonly accepted techniques used in diagnosis.

It has been a dream of many men for many years to find the means that would disclose the presence of cancer in the body by some general test. Unfortunately none is available. As far as can be determined now even if the possibility of a successful test exists it depends on late effects of cancer.

One of the interesting diagnostic aids which were devised to help in the search for early carcinoma was Hinselmann's colposcope. The colposcope received widespread publicity and was received with great enthusiasm. It was even advocated that a colposcopic examination be part of every periodic health examination and every life insurance examination. However, the colposcope proved to be unwieldy; it was said to require especial training to use and then it gave little more additional information than could be obtained by the unaided eye. Hinselmann's work revived interest in leucoplakia of the cervix, but in the confusion which followed it created a new field for diagnostic error.

Another field of diagnostic endeavor has been in the use of stains and dyes. There have been attempts to differentiate early carcinoma by the use of vital stains. Ludford[11] reviews this work and, reports on the use of trypan blue in mice. He noted a definite increase in absorption of the dye by malignant cells. Unfortunately, however, this caused necrosis of the tissues. In addition, in the amounts used, the dye caused enough liver and kidney damage to result in death.

In the search for a stain that could select diseased tissue, Lahm[12] showed that with anaplasia there is a glycogen lack in the cells. Langhans[13] had determined that glycogen in living tissue could be stained with iodine. Schiller utilized this and devised a test using acquous iodine to indicate areas of abnormality. Schiller advised the procedure in conjunction with biopsy to detect early carcinoma. This test was quickly accepted and is still used, or some modification of it, by some leading clinics.

One of the more promising diagnostic means to discover intra-epithelial carcinoma has been the resurgence of interest in cytologic diagnosis. Cytologic diagnosis has a history that dates back to 1847 when Pouchet examined unstained preparations of vaginal secretions in an attempt to analyze the normal sexual cycle. In 1860 Beale[14] first noted and reported large multinucleated neoplastic cells in unstained smears of sputum and diagnosed a case of carcinoma of the pharynx. Beale's article included pictures of malignant cells which would be recognized as malignant by any cytologist. In 1875[15] Quincke placed this work on a careful physiological and histological basis. Ehrlich, himself, introduced new methods of staining and fixing. Mandlebaum[16] in 1900 devised a technique which was used until Papanicolaou reestablished and reemphasized the importance of cytological diagnosis.

In 1917 Stoddard and Papanicolaou,[17] while studying estrus in the guinea pig, developed a new technique for examining the vaginal fluid. Papanicolaou in 1925 studied vaginal secretions in the human. In 1928[22] he published a report in which he noted that with benign lesions the cells were all "normal" and a differential diagnosis of benign lesions could not be made, but malignant tumor cells showed definite changes which he described. Papanicolaou thought that he had (1) produced a new diagnostic method and (2) stated that the methods and technique were simple. Papanicolaou's work was at first ignored but was later confirmed by other workers. Enthusiasm is again at a high pitch. There has been improvement in techniques and staining. It is interesting to note that all of the "newer" techniques of obtaining specimens have references in the earlier literature.

Nevertheless, the smear method is a most valuable diagnostic aid. Malignant cells are desquamated at a faster rate than are normal cells and can be differentiated by changes in the cellular morphology. The smear does offer a high degree of accuracy. Perhaps not the 98–99 per cent accuracy claimed by the enthusiasts with statistics loaded with negatives, but an accuracy high enough to be significant. The smear not only offers an accurate method by which to diagnose intra-epithelial carcinoma but also a valuable method to screen the female population.

The frozen section, so valuable in the diagnosis of clinical carcinoma, has no place in the diagnosis of intra-epithelial carcinoma where fine cellular changes are studied. The biopsy is still the "old reliable" for detection and diagnosis. It has stood the test of time. The chief objection to it has been that by the laws of chance some lesions will be missed if the wrong focus is excised. Schiller's test was devised to help select the correct areas. Techniques for obtaining the biopsies from relatively inaccessible situations have been devised. Recently studies have been made to locate the more common sites of the lesion and it is evident that systematic biopsy from selected sites markedly increases the degree of accuracy available. The rim biopsy is again coming into importance as it includes the entire portio. It is interesting to note that some clinics still regard the biopsy as a more accurate method for diagnosing intra-epithelial carcinoma than are smears of cervical secretions.

In the diagnosis of intra-epithelial carcinoma serial section of the completely removed cervix is indicated. The diagnosis of intra-epithelial carcinoma is made too often when a more complete examination would indicate invasive carcinoma. Galvin and Te Linde[18] in a recent study of intra-epithelial carcinoma were able to show that in 75 cases diagnosed as intra-epithelial carcinoma serial section showed invasion in 55 cases.

Newer work in which an attempt is made to photograph the lesion in situ with the camera is intriguing and may prove to be a means to earlier diagnosis of carcinoma.

PROGNOSIS

With a correct diagnosis of intra-epithelial carcinoma, the prognosis is excellent because of the latency of growth. The rate of cure is high with adequate therapy regardless of the type used: that is, radiation, surgery, or a combination of these. The importance of discovering this lesion may be stressed with the estimates that in clinically evident cervical carcinoma there is a lag of four months between the first bleeding and the onset of therapy, and that from the onset of bleeding the chance of a cure decreases approximately 3 per cent each week!

TREATMENT

In the treatment of clinically evident carcinomas of the cervix there has been little improvement in salvage rates regardless of whether surgery or radiation therapy was used. What differences exist are probably a reflection of personal skill. It is interesting to note that in such teaching centers as the Chelsea Hospital[19] for women, an advocate of surgery, there is a steady decrease in the number of patients whom they deem to be technically operable, while the advocates of radiation therapy as exemplified by institutions as the Curie Foundation[20] attempt to improve their results by subjecting some of their patients to operation. Unfortunately there has been so little improvement in cure rates that today the consensus of opinion is that until new modes of therapy are devised cure rates can be improved only with earlier diagnosis. This is why it is so imperative that carcinoma of the cervix be discovered in its intra-epithelial phase.

There are no reports where radiation therapy alone was used in the treatment of the later lesion. It would be expected that a high cure rate would be certain. For what it is worth, one should remember that this lesion is seen in the lower age group; radiation means an artificial and premature menopause as well as the other associated aftermaths of radiation therapy.

The devotees of the surgical approach have maintained that with removal of the lesion there can be no local recurrence.

The earlier writers described treatment by such conservative surgical procedures as conization, simple excision, and cervical amputation. In fact some cures have been reported by Schiller, Stevenson, Rubin, Hunner and others from these procedures. However, this simple surgery has been followed by recurrence. There are no reliable figures to indicate how often this simple surgery was successful.

As more workers described their results it is evident that the surgeons are doing more extensive surgical procedures, although in the main few clinics resort to the classical Wertheim operation. There is evidence though that adequate treatment need not involve such extensive procedures. In 1945[21] a report emanating from the Mayo Clinic where a "simple" abdominal complete hysterectomy was done claimed no recurrence in any case during the 5 years between 1939 and 1944.

It would seem that any metastasis would have become apparent by this time.

As yet we cannot become too dogmatic about the therapy of this lesion. The only dogma should probably be that regardless of mode of therapy, it should be applied as vigorously as it is with the more obvious epitheliomata.

The writer acknowledges with appreciation the aid and encouragement received from Drs. John I. Brewer, Ronald R. Greene, and Mark Wheelock.

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50 Years Ago

From *The Connecticut State Medical Journal*

May 1950

New Mt. Sinai Hospital Opens Its Doors

On March 19 the new Mt. Sinai Hospital in Hartford opened its doors to 25,000 visitors as a part of its dedication and consecration ceremony, and on March 22 started admitting patients to its new modern facilities. Sixteen patients were admitted on the first day.

The new hospital has a 115 bed capacity, which includes medical, surgical, maternity and pediatric services.

The hospital, designed by Ebbets, Frid and Prentice, and constructed at a cost of $1,700,000 by the Southern New England Contracting Co., is a combination of a new structure with the old Hebrew Women's Home for Children. Located on Blue Hills Avenue, it fits into the slope that reaches down to Coventry Street in the rear.

It is the third hospital in this area. Within actual stone's throw of each other are the city's McCook Memorial Hospital and the Blue Hills Hospital for Alcoholism recently dedicated by Governor Bowles and administered by the state's Commission on Alcoholism.

The new Mt. Sinai Hospital doubles the capacity of the 27 year old institution of 55 beds, which had been located on Capitol Avenue. Like its predecessor, it will be nonsectarian. It is anticipated that it will be operated by a staff of about 175.

The hospital culminates ten years of effort and planning, and was financed by three public subscription drives, the last in conjunction with the Hartford Jewish Foundation. When Samuel C. Suisman, first vice-president of the Hospital and chairman of the Building Committee turned the keys over to Abraham I. Savin, the president, the ten year period became an epoch in the hospital's history.

New Britain Hospital Adds TB Facilities

The City of New Britain through its Health Department has entered into an agreement with the New Britain General Hospital whereby the latter has agreed to furnish isolation facilities for the care of certain cases of communicable disease. Eleven beds have been earmarked for this service—four will be a part of the medical ward of the hospital and seven will be set up in a converted classroom located on the roof of the main pavilion of the hospital.

This arrangement was primarily made to house cases of tuberculosis awaiting admission to one of the State tuberculosis sanatoria. To date most cases of tuberculosis either were kept at home, exposing others to the disease, or more frequently were admitted to the isolation unit of McCook Memorial Hospital in Hartford. Inability of the Hartford unit to absorb all of the waiting tuberculosis patients from New Britain was a deciding factor in the establishment of this unit. It was further felt that this small isolation unit under unusual epidemic situations might also be called upon to admit cases of poliomyelitis.

The City of New Britain has made available an amount not to exceed $5,500 for the conversion of the classroom into an isolation unit.

Our State TB Commission

The report of the State Tuberculosis Commission for the year 1948–1949 recently published shows an expenditure of a little over $4 million. 999 full time employees carried on the work in the various sanatoria and the central office for an average number of 1253 patients. The death rate for tuberculosis dropped from 34.1 per 100,000 population in 1940 to 27.4 in 1948. New cases reported increased from 1221 to 1600 in the same eight years.

A total of 981 cases of tuberculosis were admitted to the five State sanatoria between July 1, 1948 and June 30, 1949. That left 619 cases to be cared for on a makeshift basis, too large a group in the opinion of many.

Two mobile x-ray units now operate the year around. During 1948, 67,000 persons were x-rayed and during the first six months of 1949, 38,399 more.

Shortages of personnel in the medical, nursing, and certain technical classifications continue to exist throughout the sanatoria. In particular has the shortage of nurses been evident. Undercliff Sanatorium has only about one half its required quota of nurses. Uncas-on-Thames has developed a nurse's aid program together with an affiliate nurses's training program and some reorganization of the nursing program as a whole.

In the Tuberculosis Commission Dr. Linde found it necessary to resign as chairman because of poor health. He continues to serve as a member of the Commission, however. Mr. Ekvood C. Stanley replaced Dr. Linde as chairman, Dr. Fred C. Green of New Haven replaced Mr. John T. Walsh of Ansonia, and Miss Marion H. Douglas, R.N. was reappointed to the Commission. Dr. Paul S. Phelps is the administrative head of the Commission.

Reprinted from the *Connecticut State Medical Journal*, May 1950.

Partnerships and Adversity

IT seems like such an ideal partnership: the health professions partnering with the electronic media to inform, through the audio and particularly the visual marvels of television, an increasingly sophisticated public on health matters. In actuality, if such a partnership ever was intended, it yields a broad spectrum of readings on the "merit meter" as viewed from medicine's side. Emergency room medicine is sometimes reduced to soap opera, certainly not a reducer of angst for those citizens who find themselves in an emergency room on a busy Saturday night; physician integrity and deportment is sometimes personified by the "sick" doctor who carved the initials "A.Z" onto the patient's abdominal wall at the conclusion of a caesarean section. The question that followed was, "Doctor, have you ever been tempted to carve a C in the skin as you were finishing an operation?" The question presupposes that since the public has discovered that one doctor is "gone," they should use appropriate queries to find out whether we're all a little crazy. By this use of the media, little is accomplished to maintain the health of the public or the health of the medical profession.

But, when a television personality of respect and renown draws upon the power of the television stage to bring a health issue to the attention of the public with energy, intelligence and the passion derived from personal experience with adversity, we in medicine should acknowledge the effort (and its success) and express a note of thanks. During the month of March, the popular cohost of NBC's "Today" show, Katie Couric, made a case for screening for colorectal cancer that was as good as many of us have seen even from the best of the public health types. Ms. Couric was plunged into the crucible of personal tragedy two years ago by the untimely death of her husband, Jay Monahan, from colorectal cancer at age 42. Out of her grief came a series of positives benefitting all of us. In collaboration with Lilly Tartakoff and Lisa Paulsen, she founded the National Colorectal Cancer Research Alliance to raise funds for research on colon cancer. They campaigned successfully to declare March as Colon Cancer Awareness Month.

Ms. Couric herself underwent colonoscopy and went public with the procedure, heightening interest and reducing fear among patients. Risk factors for colorectal cancer, particularly family incidence and the premalignant nature of colon polyps, were discussed in detail by Ms. Couric including an articulate and informed interview with Tim Russert, host of "Meet the Press" during prime evening hours. Colonoscopy as a screening procedure was explained: when done expertly, a negative study means you don't have cancer of the colon, a positive finding of cancer is generally definitive, not equivocal, and removal of a previously unknown polyp prevents its evolution to a cancer. Telephones at colorectal surgical doctor's offices and gastroenterologist's offices became extremely lively and this liveliness has continued. So far, we have only common sense to indicate that some colon cancers will be detected that would otherwise have gone undetected or been delayed in discovery without the Katie Couric-led campaign. Note also that this was not a campaign for funds or a telethon for a particular disease or afflicted group of people; this was a campaign in which a credible and involved public figure delivered information to all of us at risk for a very common disorder and helped us and our future patients to do something about that risk.

At this desk we hope that other media personalities will follow Katie Couric's example, bringing good out of the crucible of adversity, in partnership with the health professions. We must seek more screening studies that draw the definitive conclusions that colonoscopy accomplishes. We need much wider use of screening mammography while acknowledging that in its present form a positive study doesn't mean cancer of the breast and a negative study doesn't mean absence of it. Finding a better screening test is the assignment of science and medicine. Our recent observation of the role the media can play in encouraging (and delivering) the citizenry to be screened for one major killer is heartening.

H. David Crombie, M.D.
Editor

ANNOUNCEMENT

Reflex Sympathetic Dystrophy Syndrome Association of American (RSDSA) has published the first edition of Clinical Practice Guidelines on our Internet site www.rsds.org.

The guidelines provide patients, health providers, and payers with a detailed algorithm for the diagnosis, treatment, and management of Reflex Sympathetic Dsytrophy, also know as Complex Regional Pain Syndrome.

The goal of the guidelines is to provide the consumer with full, unbiased information that will enable them to make informed choices about their care.

One physician commented on the guidelines' quality by stating, "Excellent! One Stop shopping for the healthcare provider and customer."

RSDSA is a national not-for-profit organization dedicated to promoting neurological syndrome.

James W. Broatch, MSW
Executive Director

Recommendations for Preventive Pediatric Care

The American Academy of Pediatrics is pleased to announce the release of its newly revised periodicity schedule, "Recommendations for Preventive Pediatric Care." This new set of recommendations updates the Academy's 1995 schedule and provides guidelines on procedures and screenings necessary for healthy children at various stages throughout their growth and development. The schedule was developed by the Academy's Committee on Practice and Ambulatory in consultation with other AAP Committees, Sections, and Task Forces.

The following is a summary of the major changes incorporated into the revised schedule:

- Anticipatory guidance for violence prevention and management was added per the AAP statement, "The Role of the Pediatrician in Youth Violence Prevention in Clinical Practice and at the Community Level" (1999).
- Counseling for sleep positioning and nutrition has been added.
- A prenatal visit was added to provide counseling for high-risk parents, for first-time parents, and for those who request a conference.
- Follow-up evaluation after hospital discharge is recommended for breastfeeding infants per the AAP statement, "Breastfeeding and the Use of Human Milk" (1997).
- All newborns should be screened for hearing per the AAP statement, "Newborn and Infant Hearing Loss: Detection and Intervention" (1999). Additionally, hearing screening has been changed from objective to subjective at age three years due to behavioral difficulties of this age group in the pediatric office.
- Both hearing screening and vision screening have been changed from subjective to objective at ages six and eight years due to increased reliability of objective screens at these ages.
- Hematocrit or hemoglobin screening has been changed to reflect universal and selective screening options as discussed in the AAP "Pediatric Nutrition handbook" (1998) and the Centers for Disease Control policy statement, "Recommendations to Prevent Iron Deficiency in the United States." Specifically, a screening was added for infants ages nine to 12 months and for high-risk patients ages 15 months through five years.
- Lead screening now reflects screening for at-risk children or for state law where applicable. Consult the AAP statement, "Screening for Elevated Blood Levels" (1998).

All referenced policy statements are posted on the Academy's website at www.aap.org.

The American Academy of Pediatrics feels that these are the optimal recommendations for children's preventive health care and recommends implementation in state pediatric health-care programs.

Jack Swanson, M.D., F.A.A.P.
Chair, Committee on Practice and Ambulatory Medicine

Imagining New Worlds: Can We Adapt?

ROBERT U. MASSEY, M.D.

LAST month a surgical colleague handed me a thin volume. "I thought you might be interested in this." Within two evenings I had finished reading *Imagined Worlds* by the physicist Freeman Dyson,[1] unusual for me since I generally have three or four books going at the same time, and I am no speed reader. Dyson's book appealed to my taste for science fiction, while at the same time intensifying my fear of free-wheeling, profit-driven science and technology.

Dyson, a transplanted Briton, is professor emeritus in the School of Natural Sciences at the Princeton Institute for Advanced Study. Since he was a scientific adviser to the Royal Air Force in World War II, I placed him in my generation. My source book in science history confirmed this. His field was quantum electrodynamics and his year of birth 1923.

Dyson's early reading, like that of many of us whose impressionable years were the 1930s and '40s, included H.G. Wells's *The Time Machine*, Aldous Huxley's *Brave New World*, and, although he did not mention it, surely too George Orwell's *1984*. He also had read *Daedalus, or Science and the Future*, by J. B. S. Haldane, published in 1923, which most of us probably have not. His copy, in fact, had belonged to Albert Einstein who had marked page 17 at this paragraph:

> In ethics as in physics, there are so to speak fourth and fifth dimensions that show themselves by effects which, like the perturbations of the planet Mercury, are hard to detect even in one generation, but yet perhaps in the course of ages are quite as important as the three dimensional phenomena.

Haldane, whom we recall as a respiration physiologist and inventor of the Haldane gas analysis apparatus, came, especially after 1918, to question the heretofore unquestioned benefits of scientific progress, making instead the astonishing assertion that "the destiny of the scientist is to turn good into evil." In 1923 when Haldane was writing, the public, especially in the United Kingdom, saw the loss of almost an entire generation of young men in the Great War as the consequence of modern technology and science.

By the 1940s we had begun to worry once again that the boon of technology, so brilliantly on display at the 1933 Chicago and 1939 New York World Fairs, might soon show its darker side. That fear was amply confirmed by the events of the summer of 1945, first above a New Mexico desert, and then in the skies over Hiroshima and Nagasaki. In his introduction Dyson writes:

> Two voices speak for the future, the voice of science and the voice of religion. Science and religion are two great human enterprises that endure through the centuries and link us with our descendants. I am a scientist, and as I attempt to look into the future in this book, I speak with the voice of science.... But I do not claim that the voice of science speaks with unique authority. Religion has at least an equal claim to authority in defining human destiny.... Like the human nature that it reflects, religion is often cruel and perverted. When science achieved power to equal the power of religion, science often became cruel and perverted, too.

Haldane and later Dyson were repeating the fears expressed by Francis Bacon who was present at the dawn of modern science. The technological arts, he prophetically wrote, "have an ambiguous or double use. and serve as well to promote as to prevent mischief and destruction, so that their virtue almost destroys or unwinds itself."

Reflecting on Huxley's *Brave New World,* which had achieved by genetic engineering, cloning, ectogenesis, and a "free supply of euphoric drugs with no deleterious side effects, ... the benevolent tyranny of a world government dedicated to the slogan 'Community, Identity, Stability,'" Dyson, observed that we may be heading down that dark path;

> As a price of this achievement we shall make some small sacrifices. We shall sacrifice some of the human qualities that might disturb the stability of our society. We shall sacrifice intellectual curiosity and political discontent. We shall sacrifice the personal ambitions that cause us to fight and quarrel and stir up revolutions. We shall sacrifice three ungovernable passions that brought us so much grief in the past: science, art, and religion.

Dyson goes on to tell stories describing both the amazements and the fearsomeness of his "Imagined Worlds," stories of intragalactic travel, even colonization on new worlds where the erstwhile human species would, after millennia, undergo evolutionary changes, losing track of

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ROBERT U. MASSEY, M.D., Professor Emeritus, Division of Humanistic Studies, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington.

its origins; robotic automata that would perform all the drudge work of the world and might even be self-reproducing, updating themselves by a kind of natural selection; and of course cloning, ideal babies, plants, and livestock, designed by linking DNA sequencing to computer technology; deflecting meteors or comets on collision course with the earth by using mass-drivers sent into space to intercept them decades before the collision could occur; and finally even radiotelepathy, enabling humans to communicate with one another without words!

Quite by coincidence the 7 April issue of *Science* carried an article describing a new generation of robotic automata designed by a team of engineers and biologists at Case-Western Reserve University.[2] These creatures resembled cockroaches, lobsters, hawks, and a two-meter long tuna, but were "better than nature." "When you see this robot on the web page," the author writes. "it will blow your mind." He concludes, "Fifty years from now, people will be talking about the technology that came off these programs in the same way they talk about the technology that came out of the space programs."

And in that same issue of *Science,*[3] John Harris, who holds the Sir David Alliance Chair of Bioethics at the University of Manchester in England, has written an essay, "Intimations of Immortality," predicting human life spans of 120 years, men and women who would "neither be old or frail, or necessarily retired," perhaps even immortal, but, of course, still vulnerable to death by misadventure. He wonders if our "time-honored ethical principles" are up to immortality for the rich (Dyson pointed out that all new technology begins as toys for the rich):

> We thus face the prospect of "mortals" and "immortals" existing alongside one another. Such parallel populations seem inherently undesirable, but it is not clear that we could or should do anything to prevent such a prospect for reasons of justice or morality. If increased life expectancy is a good, should we deny palpable goods to some people because we cannot provide them for everyone?

He concludes:

> It is unlikely that we can stop the progression to increased life-spans and even "immortality," and it is doubtful that we can produce coherent ethical objections. We should start thinking now about how we can live decently and creatively with the prospect of such lives.

Are we then quite out of control?

I am content to be one of the crowd born in the early decades of the last century, those of us in our eighth and ninth decades, who can speculate about these triumphs of ingenuity "that serve as well to promote as to prevent mischief and destruction" without a shudder of personal fear! But we have children and grandchildren to worry about; perhaps, as newcomers to this place, they may be better and wiser. Already there is evidence of that; these are the young men and women who take seriously the threats to our environment, run the outfits providing humanitarian aid in Zimbabwe, arrange benefit concerts for the refugees in Kosovo, and maintain a healthy suspicion of politicians.

One thing seems clear to me now, even though no one can see beyond the next decade: science and technology have neither the will nor the means to solve the problems created by them, and neither do politicians nor free market capitalism. The solutions, when and if they are found, will be in the humanities and religion, not through planning but by muddling through. I believe Freeman Dyson would agree.

I recall hearing of a play, perhaps in the mid 1940s, in which in the last act a group of physicists have just detonated their first nuclear bomb. The curtain falls, the author of the play comes on stage rattling a bunch of keys and announces, "Gentlemen, it's closing time." That was over a half century ago, and the theater is still open!

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MEDICAL NEWS CAPSULES

This Month's Reading in Review

TIMOTHY B. NORBECK

There was "no evidence that the legislation would raise health care costs. Bargaining rights would make doctors better advocates for their patients and stop HMOs from imposing contract terms that interfere with patient-physician relationships. Anyone unsure about whether this bill is absolutely necessary need only think of their last experience with an insurance company 800 number to be reminded how powerless patients and physicians are when approaching a faceless health plan."

Remarks of AMA Trustee Donald J. Palmisano, M.D., J.D., in response to questions about the Campbell bill (HR 1304), which would allow independent physicians to legally negotiate with health plans.

Baltimore Sun and *Boston Globe*
(31 March 2000)

"Contents of the data bank, a listing of malpractice payments and disciplinary actions against physicians and dentists, were never intended to be open to the public. The data are meant for hospitals, state licensing boards and others, to be viewed in context with other information, when making credentialing decisions. It could be that a physician is in a high-risk specialty or is willing to take on high-risk patients. A settlement might be made to get rid of a nuisance suit, or may even been entered into by an insurer against the doctor's objections."

An *AM News* editorial in response to Representative Thomas Bliley's (VA) ill-considered campaign to open up the National Practitioner Data Bank to access by the public. (3 April 2000)

Thank You For Calling—Tom Mabe really hates telemarketers. "When you're self-employed, you jump when the phone rings, hoping it's a client, not a doggone telemarketer," he said. At first, the Louisville, KY, musician was patient—"I was nice for weeks!"—but when the calls wouldn't let up, he started playing gags on the salespeople. "They'd call about a security system and I'd say, 'I'm robbing the place right now, but you might want to try back later.'" He told a funeral parlor trying to sell a burial plan he was waiting for a sign from God as to whether he should kill himself, and the funeral call was it. "You're the angel of death, man," he told him. The gag apparently did not perturb the funeral man. "If we can get the paperwork out to you this afternoon, can you hold off [killing yourself] until tomorrow?" was the reply.

This Is True (20 February 2000)

After winning $6.54 million in Britain's national lottery, Nick Taylor, who has been suffering form kidney disease since he was 11 years old, said that he would exchange his winnings for a new kidney. Since then, he has been inundated with offers from people who want to donate their kidneys—for cash. "I want to donate my kidney if he donates me some money," one woman said. But Britain outlaws paying for transplant organs, and the National Kidney Research Foundation has called the offer "absolutely dreadful." In 1999, 4,691 Britons were waiting for kidney transplants, up 2% from 1998.

Reuters (31 March 2000)

In a recent talk I gave to medical students at University of Connecticut a second year student came up to me and told me about her stint as a summer intern at a major health insurer in Connecticut. She said that "no one ever talked about 'the patient'—it was always all about the bottom line."

"How carefully does your doctor read? While developing a practice management course for physicians, Miami gastroenterologist D. Phillip Grossman sent phony contracts from a fictional managed care firm to dozens of doctors. Although the contracts contained ridiculous terms, a majority of the physicians accepted the agreement, leading Grossman to conclude that most had never read the contract at all."

Modern Physician (1 March 2000)

Editor's note: This really isn't that surprising considering how onerous and one-sided those contracts are today. Some physicians admit to not reading through them at all because "I have no leverage or say in them anyway."

Only in America—The *Philadelphia Inquirer* reported in October that Pennsylvania's lawsuit settlement with the tobacco companies included a $42 million windfall for the two law firms chosen by the governor to represent the state (about $ 1,300 an hour per lawyer), even though the case's research and arguments were largely copied from other states' lawsuits and the negotiations were streamlined because the tobacco companies had begun settling those cases. Among the expense-padding: $62 to one lawyer for 12 minutes' work (reading the *Wall Street Journal*) and $290 to another for an hour he spent ordering books.

News of the Weird (12 April 2000)

TIMOTHY B. NORBECK, Executive Director, Connecticut State Medical Society, New Haven.

Letters to the Editor

Letters to the Editor are considered for publication (subject to editing and abridgement), provided that they are submitted in duplicate, signed by all authors, typewritten in double spacing, and do not exceed 1-1/2 pages of text (excluding references). They should not duplicate similar material being submitted or published elsewhere. Letters referring to a recent Journal article should be received within six weeks of the article's publication.

Chiropractic Response

Letter to the Editor: On behalf of the Connecticut Chiropractic Association I would like to respond to the book review of L.A. Chotkowski's self-published book, *Chiropractic. The Greatest Hoax of the Century,* that was published in your November issue.

That your reviewer, C. Robert Biondino, gave this book a favorable review is baffling. Chotkowski's comments and sweeping condemnation of chiropractic are based on nothing but, (as Biondino acknowledges), "newspaper articles, author research (three decades of primary practice), and anecdotes." Hardly sound, evidence based, science and research.

The fact is Chotkowski has publicly made it his life's ambition to vilify chiropractic. That his book was self-published through New England Novelty Books alone should have cast some light on his "objectivity." What your reviewer failed to do was disclose this bias and critically evaluate Chotkowski's statements.

Unfortunately, Dr. Chotkowski steadfastly refuses to acknowledge published research favorable toward chiropractic. Two recent examples of research analysis are the Agency for Health Care Policy and Research review of studies and support of spinal manipulation for acute low back pain and the Ontario Ministry of Health's published report reviewing chiropractic research and literature with a final recommendation for increased utilization of chiropractic in their health-care service.

The chiropractic profession has taken its responsibility continually to produce research and evidence seriously. It has only been recently that political barriers have been overcome and increased governmental funding been provided. What is truly remarkable is the volume of research that the profession produced before having access to national and governmental funding sources like the NIH. Chotkowski and your reviewer appear oblivious to this information.

Chotkowski's opinion that "The chiropractic profession has existed for a century without having made a single notable contribution to the world's body of knowledge in the health sciences" is as absurd as it sounds. When your reviewer writes, "Chotkowski has successfully approached and defined the chiropractic arena medically, legally, congressionally, and personally," he should have added that Chotkowski failed to do so credibly. The Connecticut Chiropractic Association makes efforts to reach out to the medical community to share information on chiropractic procedure and practice. When CSMS gives this type of book a forum and implied credibility, many of us ask: Why bother?

I have included a list of references* that may help your readers understand chiropractic education, concepts, and research if they so choose. The evidence and science to support chiropractic is there. However, you have to want to find it.

Brian C. Baker, D.C.
President, Connecticut Chiropractic Association

**Editor's note:* The list of references cited in the above letter may be obtained upon request from the office of *Connecticut Medicine*

Professional Ethics

Letter to the Editor: Your recent article, "My Doctor" and Dr. Massey's reflection "Bioethics by Poll" were subjects that were most appealing especially to the older generation of physicians such as myself. You describe your doctor as fulfilling the Hippocratic and Oslerian ideals that were instilled in us from the day we entered the hallowed halls of medical school.

Dr. Massey reviews bioethics as seen through the eyes of many contributors to a subject that appears to be lost among the concerns of more than a few in the recent generation of physicians. It was not uncommon during my early years of medicine to encounter some practitioners who did not agree with the younger physicians' approach to practice methods. However it was rare to meet a doctor who did not abide the principles developed by Hippocrates and Osler.

It is discouraging to hear and read of the philosophy adopted by physicians who use polls to help them decide the morality of their decisions in the treatment of their patients. The greed factor appears to invade the *business* of a few physicians, even supported by their responsible committees, which I discovered after retiring from active practice and encountered doctors without compassion.

To understand a patient's feelings it has to come as somewhat of a shock to learn from the statement of one young resident "It might have been possible in your day, not in ours." In other words "you old docs never worked as hard as we do."

I truly enjoyed my years in the practice of medicine but with the insistent efforts of pressure groups to depersonalize our profession it will be a miracle to find the warmth of the practitioner in the coming generation.

Timothy L. Curran, M.D.
Stuart, Florida

Thyrotoxic Paralysis

Letter to the Editor: Milite's and Golob's paper on thyrotoxic periodic paralysis in the April issue brought back memories of my experiences with two such cases and the unique circumstances surrounding them.

Thirty years ago as chief of medicine in a hospital near Philadelphia, I was surprised early one morning to find one of the surgical residents waiting in my office anteroom. It was obvious he had been crying. Tearfully he explained how the surgical chief had chastised him and threatened his dismissal if he didn't demonstrate better agility and perseverance in the operating room. He said that in the preceding weeks, he had become progressively weaker in his legs and more recently in his hands. He found himself unable to stand for long periods and now had begun to drop the surgical instruments. In addition, he admitted that he had barely avoided several accidents on the expressway because he had difficulty moving his foot quickly from the accelerator to the brake pedal. He also had experienced recent unexplained weight loss. Previously, he had always enjoyed good health as did his family.

Physical examination revealed an obviously distraught Filipino male (of Chinese extraction) who demonstrated little more than a slight tachycardia and brisk patellar reflexes, which I first considered might be due to his emotional state. However, he was unable to climb my library steps more than a few times before tiring.

Subsequent blood studies confirmed a diagnosis of hyperthyroidism along with a low potassium. I referred him to a staff endocrinologist for treatment and in a matter of weeks he regained his muscle strength and the renewed confidence of the surgical chief.

Ten years before I had been presented with a similar case during the second—oral part of my internal medicine boards in Boston. My examiner was Dr. John Leonard from Hartford Hospital, one of the early masters in hospital medical education. One of his questions to me concerned the mechanism of the patient's thyrotoxic paralysis. As luck would have it, I had read a commentary on the problem in the *Lancet* just a few months before and I was able to answer with one of my more lucid presentations that day. Later that afternoon, as I was leaving the hospital, I encountered Dr. Leonard along with my other, more dour, examiner on the elevator. Dr. Leonard made a point of telling his counterpart that I had given a very fine discussion of the thyroid induced paralysis. A few months later, I was notified that I had passed my oral examination (I had passed the written part a year earlier) and was now board certified.

There is one last twist in the tale of the Filipino surgical resident. Sometime after his recovery, his wife, a well-educated and stylish young lady, came to my office to thank me for my help. Just before leaving, she casually dropped a gold bracelet studded with several blue sapphires on my desk. "Your wife admired this at the Christmas party last year," she explained, "so she should have it." She ignored my objections, saying it was really nothing and insisted her father could pick up another from a street vender during one of his business trips to Thailand.

We lost contact with the resident and his wife after we moved to Connecticut several years later. When our new insurance company insisted that we obtain certified appraisals of my wife's jewelry, we were astounded to learn the value of that piece which we had always assumed was but a piece of Asian costume jewelry.

Theodor Billroth, the great Viennese surgeon, is quoted as saying, "The pleasure of a physician is little, the gratitude of patients is rare and, and even rarer is the doctor's material reward." I think Dr. Billroth was very wrong.

Lee Sataline, M.D.
Cheshire

CALL FOR PAPERS

Members of the Connecticut State Medical Society reading papers before other organizations are invited to submit their papers to the *Journal* for consideration. Authors preparing manuscripts for submission to *Connecticut Medicine* should consult **Information for Authors**. This is published in most issues of *Connecticut Medicine* or may be obtained from the *Journal* office. Adherence to the instructions will prevent delays both in acceptance and in publication.

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From the Executive Director's Office

COUNCIL MEETING

Wednesday, 22 March, 2000

Attendance

Present in addition to the Vice-Chair, Dr. Deren, were Drs. Aleali, Beck, Bigos, Brooks, Ducey, Eslami, Franklin, Geary, Goodrich, Handelman, Herzog, Katz, Keating, Sridar, Sadowski, Schwartz, Sosa, Timmerman, Turner, and Wetstone.

Also present were Mr. Norbeck, Ms. Lindquist, Mr. Brunell, Ms. Morelli, Ms. Norbeck, Ms. Schaffman (all CSMS staff); Mr. Fiorentino (HCMA and NHCMA staff); Mr. Thompson (FCMA staff); Mr. A. Schuman (NLCMA, WCMA, MCMA, TCMA Staff; Dr. Thompson, Mr. Lalime, and Ms. Mastriano (CSMS-IPA staff); Dr. Sureddi, President, NHCMA.

Absent were Drs. Ahamed, Galvin, Geist, Hollister, Maloney, Mansourian, Redmond, Scarpa, Sindwani, Sridhar, Tesoro, Van Linda, and Wong.

In the absence of Dr. Hollister, Chair, Dr. Deren chaired the meeting. Dr. Deren introduced two new members of the Council from New London County, who were attending their first meeting, Drs. Stephen Ducey and Kolala Sridar.

Report of CSMS-IPA

Kenneth Lalime, Executive Director of the CSMS-IPA, reported that it was quite possible that before the day was over, negotiations with PHS would come to a mutually agreeable conclusion.

He stated that as soon as a definitive agreement had been reached, the Council would be immediately notified, and there would be a distribution of funds that would be released. The IPA Board has been apprised of all of the activities of the negotiating team and issues of concern have been included in the contract.

Dr. David Thompson, President of the CSMS-IPA, responded to a question that was referred to him at the last Council meeting concerning a physician arrangement and how physicians are compensated. He stated that he wished the Council, representing the shareholders, to be cognizant of the fact that the goal of the IPA has always been to have a fair and equal arrangement for every physician.

Action Referred by the Council 2/17/00

UConn Health Center: Activities of the Women's Health Center and the John Dempsey Hospital regarding bonuses for each patient brought to that hospital was referred to the CSMS Committee on Ethical and Judicial Affairs (CEJA) to determine whether this situation is within its purview. Dr. Franklin, Chair of the CEJA, reported that he and CSMS Attorney Cam Staples had given the issues raised by Dr. Katz a great deal of consideration, discussed how to handle this situation, and it was felt that at the moment it was a business decision, probably with some ethical overtones. He stated that patients should be informed when there are financial incentives for the physician to behave one way or another. They did not feel that the letter from Dr. Katz, as outlined, regarding the situation properly fell within the jurisdiction of the CEJA. Dr. Franklin stated that the letter had great merit and a lot of philosophical issues, however he and Cam Staples felt it did not fit within the charge to the committee.

Dr. Katz requested that the letter he sent to Dr. Franklin be included on the next Council agenda as an item for discussion and include a summary of the opinion expressed. If it is felt that CEJA cannot handle this problem, then the Council has to confront the problem. The Chair ruled that, pending no objection, this request would be carried out. There was no objection.

Report of the President

Dr. Katz reported on a meeting he attended with the Medical Advisory Committee of the Connecticut Section of the American College of Obstetricians and Gynecologists (MAC/CT-ACOG). He was invited to present the CSMS position on the attempt by pharmacists to gain prescriptive authority. He stated he discussed CSMS's concern about this issue not only concerning pharmacists, but also podiatrists, nurses, chiropractors, naturopaths, etc. Overall, he reported, the OBs are divided on this issue. He stated that even as CSMS struggles to contain managed care, the OB/GYN group is seeking to expand it and to add some expensive mandates as covered services, such as fertility evaluation and therapy.

Dr. Katz reviewed some of the activities that took place during his term as President. He brought to the attention of the Council a letter from Dr. Michael Grey, Associate Professor of Medicine at UConn, asking CSMS to cooperate in the publication of a book honoring the writings of Dr. Robert U. Massey, former editor of *Connecticut Medicine*. It was reported that CSMS has already published a *festschrift* edition of *Connecticut Medicine* (April 1999), which featured a collection of Dr. Massey's writings in honor of his distinguished career.

It was VOTED to inform Dr. Grey that CSMS is willing to grant permission for him to use *Connecticut Medicine's* copyrighted material written by Dr. Massey for republication in the proposed publication. This should be acknowledged in the text with the words "reprinted with permission of *Connecticut Medicine* ©Copyright (year), Journal of the Connecticut State Medical Society," and any proceeds should be given to an appropriate organization.

Dr. Katz asked that special attention be given to the memorandum that he asked Mag Morelli, Director of Government Relations, to send to the Council prior to the meeting, concerning payments for dual-eligible patients and the CON legislation.

As this was Dr. Katz's final presentation to the Council as President, he expressed his thanks to the Council for their attention and cooperation.

Report of the Executive Director

Mr. Norbeck reported on the following items:

1. On March 16, the U.S. House Judiciary Committee began consideration of the all-important Campbell bill (HR1304) , which would allow self-employed independent physicians to legally negotiate with health plans. Today, that consideration continues in Washington, along with a proposed FTC/DOJ amendment which would establish such oversight over the antitrust exemption created by HR 1304 and requires preclearance certification of individual groups to determine that they are negotiating to improve the quality of care in a way not harmful to patients.

   AMA strongly opposes this amendment because it would effectively gut the Campbell bill by allowing the FTC and DOJ to make subjective judgments about those issues. There are now 208 cosponsors in the House, only 10 short of a House majority, and no doubt the necessary 218 sponsors will be obtained. As yet there are no Senate cosponsors, and therein is the big problem—the Senate. However, this is a marvelous start for medicine.
2. The Norwood/Dingell legislation (HR2723) is moving along in the conference committee. This legislation returns the determination of what is medically necessary to physicians and would allow injured patients to sue their HMOs. Norwood/Dingell passed the House October 7th by a 275-151 vote, but the Senate passed a mild reform on 15 July. House conferees all voted against Norwood/Dingell. Oklahoma Sen. Nickles is Chair of the House/Senate Conference Committee, and that is not good news for medicine, since he is adamantly opposed to real HMO accountability. He and his colleagues hate trial lawyers, whom they view as their biggest enemy, and since trial lawyers contribute heavily to Democrats, Republications do not want legislation that benefits them. Rumors are favorable, however, that somehow the accountability issue can be worked out.
3. Led by Republicans, the House passed a bill 422-0 which would allow senior citizens ages 65–69 to earn as much as they can without losing any Social Security benefits. The Senate and President Clinton are expected to go along, and it may take effect retroactively to the start of the year. Heretofore, the earnings test reduced benefits by $1.00 for every $3.00 earned above $17,000.

   There is some thought to even providing some long-term care benefits to those who provide care in their home for relatives. The big issue for seniors, however, is a prescription drug benefit under Medicare. No one agrees on how to structure such a benefit. Pharmaceutical manufacturers and Republicans want to avoid price controls and favor a benefit combined with overall Medicare reform. Republicans also prefer to extend subsidies only to low income Medicare beneficiaries. President Clinton and Democrats, in general, want to provide the benefits to all Medicare beneficiaries, regardless of income, with various deductibles and premiums.
4. Dennis May, the retiring President of the Connecticut Hospital Association, gave Mr. Norbeck a gift that is believed so valuable that it really belongs in the CSMS archives. It is an original *Connecticut Courant* newspaper—the forerunner of the *Hartford Courant* and the oldest continuously running newspaper in the U. S. Dated 2 July 1792, it just happens to be the issue in which the *Courant* reports the action of the Legislature in chartering the CSMS. Despite some differences with CHA, we have often worked together on some issues over the years.
   It was VOTED to present a plaque to Mr. May at his retirement party.

County Reports

Reporting on the various activities taking place in their respective counties were Dr. Prasad Sureddi, President of New Haven County Medical Association; Dr. Seyed Aleali, representing Dr. Francis Scarpa, President of Fairfield County, who could not be present; and Dr. William Geary, representing Dr. Robert Cerciello, President of Hartford County Medical Association, who could not be present.

Idealized Design Plan

Dr. Neil Brooks asked for the privilege of the floor and briefly outlined the plan entitled Idealized Design, which is a grand design plan for the reorganization of medicine. He stated that anyone critiquing the plan should say what they want and not what they don't want. On request, Dr. Brooks offered to supply additional information on the subject.

Report of the Subcommittee on Preliminary Study of Nominations

With minor amendments, it was VOTED to approve the report of the Subcommittee and to transmit the slate of nominees to the House of Delegates on 10 May 2000, for election with the Council's recommendation for approval.

Legislative Update

Mag Morelli, Director of Government Affairs, reported that this short session has been intense. While committee chairs were asked by leadership to be very selective as to what bills they released, not all committee chairs did that. Many hurriedly sent out bills that should not have been sent out, with the end result being that once they hit the floor, they will be returned to other committees to be killed. That will probably happen to some of the bills which we have been able to get out of committee.

Ms. Morelli distributed a printed legislative update and gave a comprehensive report on the status of bills in which CSMS had an interest, some of which are as follows:

1. An Act Concerning Funding for Crossover Claim Payments for Patients Eligible for both Medicaid and Medicare.
2. An Act Reinstating Medicaid Funding for Dual-Eligible Patients.
3. An Act Concerning a CON Exemption for Certain Physician Offices and the Accreditation of Offices where Certain Levels of Anesthesia are Administered. (There was a detailed discussion on this bill and the Council gave Ms. Morelli guidance on the CSMS position.)
4. An Act Establishing Standards for Contracts Between Managed Care Organizations and Physicians.
5. An Act Concerning Restrictive Formularies for Health Plans.
6. An Act Concerning Limitations and Denials of Health Insurance Claims.
7. An Act Concerning the Regulations of Practitioners Joint Negotiations with Health Benefits Plans.
8. An Act Concerning the Liability of Health Maintenance Organizations.
9. An Act Concerning Prompt Payment of Workers' Compensation Medical Bills.

The above are the priority items, however, there were other bills that were followed by CSMS including Direct Access to Physical Therapy, Licensure of Athletic Trainers and Physical Therapist Assistants, Extending the Statute of Limitations on Medical Malpractice Claims, Pain Management Legislation, Medical Savings Accounts, License Fees for Retired Physicians, Establishing Biennial Health Professional Licensing, and Worker's Right to a Smoke Free Workplace. CSMS representatives attended hearings on most of these bills, and position papers were filed. Strategy to be followed on various bills was discussed.

Ms. Morelli reported on meetings at the Insurance Department to clarify the definition of a "clean claim." The current statute requires the insurers to notify a provider within 30 days of all deficiencies in a claim. However, the insurers have made the argument that they cannot completely review a claim until basic eligibility is determined from the claim form information. The Insurance Commissioner has asked the HMOs and the medical society/associations to work on an agreed-upon minimum set of fields on the HCFA 1500 form that must be completed to allow the insurers to determine eligibility and completely review the claim. The Council provided Ms. Morelli with guidance on this issue.

CSMS Distinguished Service Award

A communication was received from the Committee on Public Affairs recommending the nomination of Sigmund Strochlitz, philanthropist and Holocaust survivor, a resident of New London, for the year 2000 CSMS Distinguished Citizen Award. It was VOTED to approve the recommendation of the committee.

Report of Connecticut Medical Insurance Company

In accordance with Council action, prior to each meeting of the House of Delegates there will be a report to the Council on CMIC.

Dr. Sultan Ahamed, President and Chairman of the CMIC Board, was not present but submitted a written report. The highlights of the report were as follows:

During the course of 1999, while aggressive competitors attempted to make inroads in Connecticut's professional liability insurance market, the number of CMIC policyholders reached 3,698 at year's end, a six percent increase, and member retention reached a high of 97%.

There is now an expanded source of policy holders and other health-care professionals who are seeking coverage from CMIC. Related health-care professionals represent desirable underwriting risks and good product diversification for the company. Over the course of 10 years, in the face of increasing competition, CMIC experienced a 42% increase in new business.

In 1999, CMIC introduced billing errors and omissions insurance, which offers coverage for nonroutine billing investigations by a government agency or commercial payor. It was VOTED to receive the report as information.

Report on Pension Fund

In accordance with Council action, prior to each meeting of the House of Delegates, there will be a report to the Council on the Pension Fund. Dr. Beck reported that the Pension Fund was fully funded, prudently invested, and all necessary reports have been filed with the appropriate authorities.

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***Physicians wishing to locate* in Connecticut may call the office requesting opportunities in their specialty. Also, candidates are invited to submit a resume to be kept on file with the Society. An announcement of a physician's availability will be published in two issues of *Connecticut Medicine* as space permits.**

Listing of physicians in the Placement Service does not in any way represent certification by the Society. Investigation of credentials and experience is the responsibility of those seeking applicants for positions.

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Successor Named to Carry-Out Late President's Initiatives

Washington, D.C.—April 24, 2000—The National Medical Association (NMA) installed its current Vice President, Javette Orgain, M.D., as President at its Spring 2000 Board of Trustees meeting. The appointment was made following the sudden death of NMA's 99th President, Dr. Walter W. Shervington. Orgain, a native Chicagoan, is a board-certified family physician and assistant professor of clinical family medicine at the University of Illinois College.

A member of the National Medical Association since 1982, Orgain has committed her efforts to improving the quality of healthcare in underprivileged African nations. Her alliance with such programs as Water for Children Africa, a program that enables Africans to receive safe drinking water, exemplifies her dedication to international medical exchange projects and maintaining a global link with the National Medical Association.

As successor to Dr. Shervington, Orgain will dedicate her efforts to implementing the goals and objectives identified by Shervington during his presidency, including the negative impact of managed care on African American physicians and patients and parity and access to HIV/AIDS and mental health treatments.

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Reprinted from *Effective Clinical Practice* March/April 2000, vol. 3, no. 2 from the American College of Physicians-American Society of Internal Medicine.

Web Site Helps Physicians Locate Free Meds For Low-income Patients

Pawtucket, RI—Volunteers in Health Care has created a one-of-a-kind, free resource for physicians trying to obtain prescription medications for their low-income patients. The service is a searchable web database, called RxAssist, which helps physicians and health care providers locate, choose, and learn how to apply for free or discounted medications made available through pharmaceutical manufacturer patient assistance programs.

Found online at www.rxassist.org, RxAssist contains up-to-date information on how to access nearly 100 pharmaceutical company patient assistance programs, and the 700 plus prescription medications they offer needy patients. Many company application forms can also be obtained via the site.

RxAssist was inspired by the resourcefulness of volunteer programs looking for ways to resolve the challenge of pharmaceutical access. It is part of a multi-pronged initiative by Volunteers In Health Care to look for solutions to aid volunteer caregivers treating uninsured Americans.

RxAssist provides:

- The ability to search for a program by either company name, generic drug name, brand name or drug class.
- A list of all drugs or programs that meet the doctor's search criteria.
- The latest information on application procedures for each program, summarized in easy-to-follow steps.
- A list of documentation required to apply.
- Tips and comments sent in by fellow health care providers.
- Nearly 30 program application forms, in "pdf" file format, which users can download and complete.

RxAssist is a service of Volunteers in Health Care, a national resource center for volunteer supported health care programs, which is funded by the Robert Wood Johnson Foundation.

"Our goal is to get the word out about RxAssist to providers across the country," notes H. Denman Scott, MD, VIHs Program Director and Chief of Medicine at the Memorial Hospital of Rhode Island. Continues Dr. Scott, "RxAssist was developed to take, as much as possible, the guessing out of applying for these programs, which may undergo changes in format and procedures without notification of potential applicants" Continues Dr. Scott, "Providers tell us that applying for these programs is very time-consuming. They are more likely to invest the time if they can access the latest information on how to apply, particularly as these programs are one of the few options available for access to medication for uninsured and low-income individuals."

Volunteers in Health Care is a national resource center for and about volunteer-supported health care programs in the US. For more information about VIH and its services, call 1-877-844-8442, or log onto VIHs award-winning web site, at www.volunteersinhealthcare.org.

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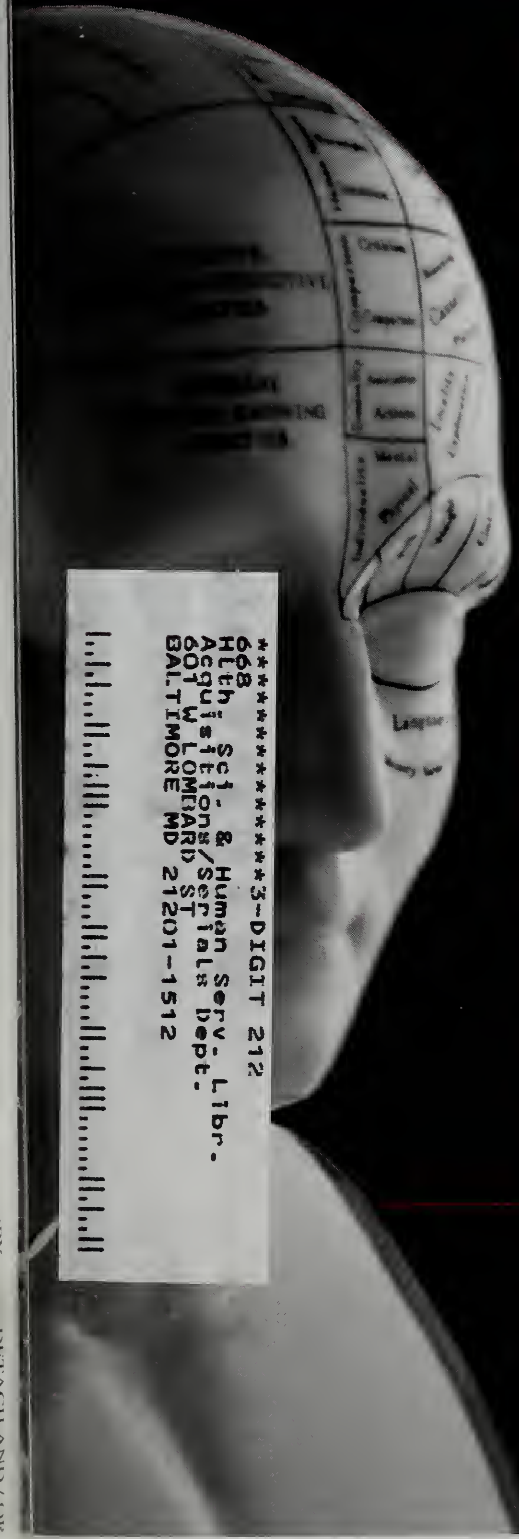

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SPECIAL ISSUE

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CONNECTICUT MEDICINE (ISSN 0010-6178), published monthly at 160 St. Ronan Street, New Haven, CT 06511. Subscription rate included in membership dues. Mon-members: $25.00 per year. Periodicals postage paid at New Haven, CT and at additional mailing offices. POSTMASTER: send address changes to Connecticut Medicine, 160 St. Ronan Street, New Haven, CT 06511-2312.

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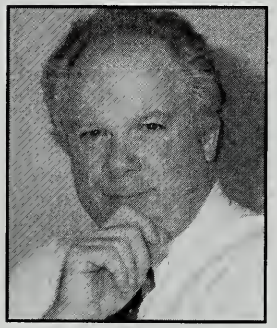

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Special Issue: Controversies in Psychiatry

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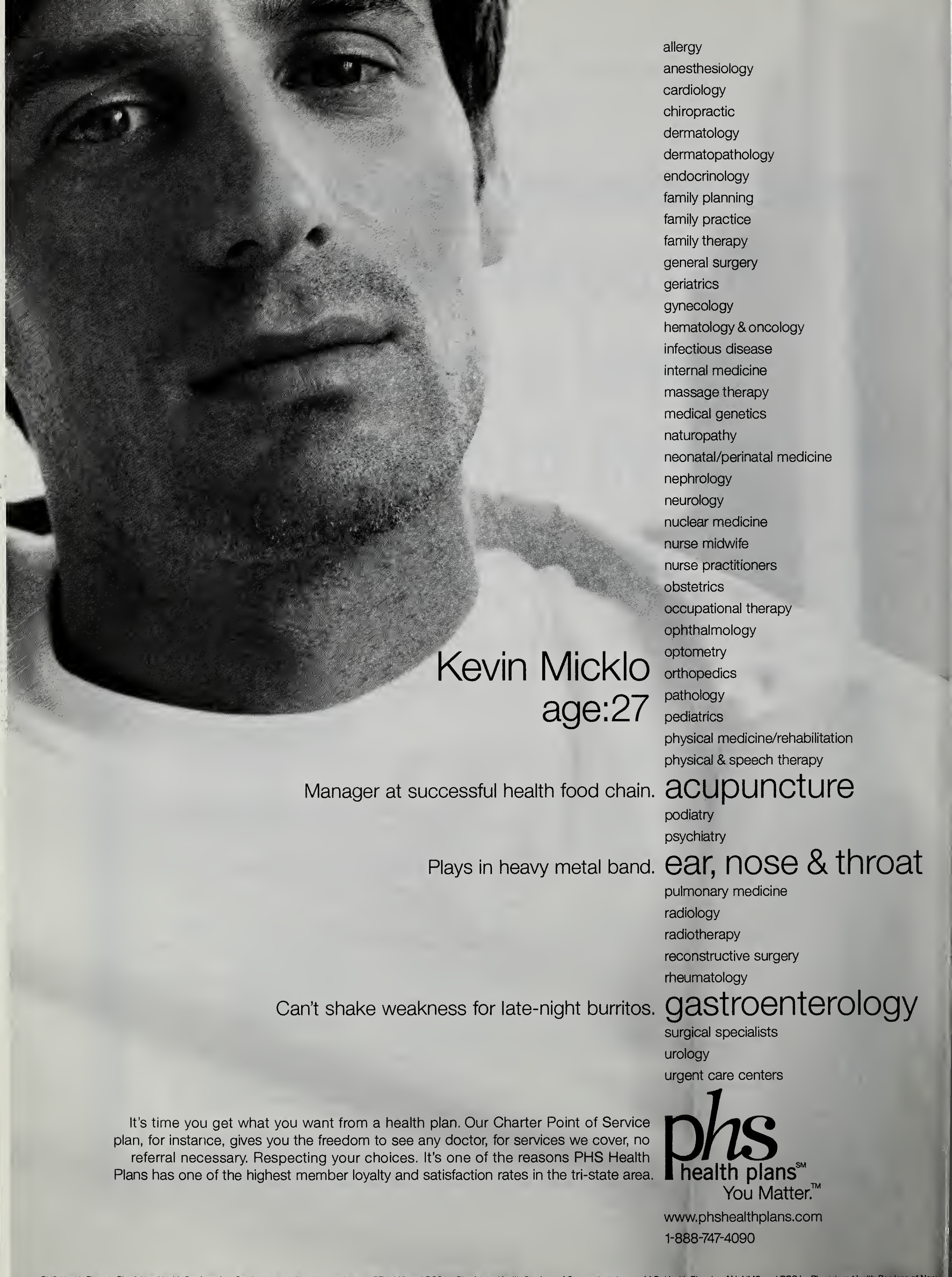

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GUEST EDITORIAL

Mental Health Services in Connecticut: Troubled Systems in a Time of Crisis

This special edition of *Connecticut Medicine* is devoted to controversies in psychiatry. Psychiatry is a dynamic medical specialty with a rapidly expanding scientific base, evolving diagnostic technologies, and a growing therapeutic armamentarium. The domain of issues encompassed within the dual concepts of mental illness and mental health touches virtually all aspects of the human condition. No other area of medicine is as affected by our attitudes toward wellness and illness, our view of the patient, by matters of public policy, and especially by the revolution in health-care financing of the last generation. It is no wonder that there are many controversies; the articles in this edition offer only a sampling.

But of all the controversies surrounding psychiatry, the most compelling is society's persistent failure to establish a cohesive system of care that fairly and equitably addresses the needs of individuals with mental illness and their families across the life span. The stigma that attaches to mental illness is real and underlies a discrimination against the mentally ill unlike any other patient group. This is a ubiquitous problem in America. Connecticut, though better than many states in this regard, is no exception.

A Blue Ribbon Commission.—In January of this year, Governor Rowland established a Blue Ribbon Commission on Mental Health[1] to study and make recommendations to improve prevention and treatment efforts in Connecticut. The Governor charged the commission to focus on:

- How the mental health, child welfare, and criminal justice systems can work together more effectively.
- How the state can maximize the collaboration among state agencies and the academic and private communities with expertise in the area of mental health.
- Potential applications of new knowledge in the areas of prevention and earlier identification of mental illness.
- Treatment approaches to be used as community-based treatment is increasingly incorporated.

One Mother's Story.—At a Blue Ribbon Commission meeting in May, a psychiatric nurse (who wishes to remain anonymous) told us of her experiences with her mentally ill son:

> Joshua is 24 years old and suffers from schizoaffective disorder and substance abuse. He does not think he has a problem, even though he has been hospitalized every year since the age of 18, for a total of about 18 weeks. Joshua does not like to take medication, and generally does not. Joshua, off street drugs and on medication, is a shy, quiet, insecure young man. Joshua on street drugs and off medication can be hostile, threatening, paranoid, and bizarre. He has been homeless for months at a time, often living in the woods, so I was appointed his conservator. I tried to involve the local mental health agency in his treatment. Because of inadequate staffing, I was told that they could only help those who wanted help and came to appointments. Joshua did not qualify.
>
> In the fall of '99, Joshua became bizarre, disorganized, and angry, not taking care of such basic needs as eating, and slamming his door if I tried to visit. He upset the neighbors enough that they complained to their landlord. I called the local mental health agency daily and begged them to evaluate him for involuntary commitment to a hospital. After several days, two police officers, not trained mental health professionals, went to evaluate him. Because he knew what day of the week it was and could talk in sentences, they said he was competent and not commitable.
>
> Soon after this, he stole significant property from me, thinking that this would force me to give him 'his' money. I immediately called the police, who came but could not find him. After the officer left, Joshua returned and incoherently threatened harm to me for calling the police. I again called the police, certain that they would now bring him to a hospital for evaluation and treatment, since he met the criteria for being a danger to others. Instead, he was arrested for domestic violence. The judge issued a restraining order against him and advised him to get treatment. He was too sick to comply. Next court date he was jailed for failing to follow treatment recommendations. In the past, he did not get treatment in jail, so I bailed him out, because he needed treatment, not jail.
>
> Joshua was soon hospitalized for five weeks. His psychiatrist told me he was extremely paranoid, with violent thoughts of hurting himself or others. Joshua has been out of the hospital for four months. He lives in a tiny ragged room in an old hotel, and tells me that of the 80 or so residents, nobody is sober. Joshua is no exception. Two people that he knows of have died from overdoses. He now has a case manager with a caseload of 30, who sees him for a few minutes each month. I now face the unpleasant prospect of having to testify against my own son in the domestic violence case. I strongly believe that outreach services could have prevented a lot of the heartache my family has endured. I fear that without better outreach services, Joshua will continue to spiral downward.

An Incomplete System of Care.—This story illustrates so many of the problems in our system of care. Revolving door hospitalizations (dictated by managed care pressures) focus only on the management of the most acute symptoms. Access to ambulatory care programs and case management is uneven, and inadequate funding is devoted to long-term rehabilitation and work programs. Residential programs and appropriate housing are often unavailable. This is especially true for the "dually diagnosed," those with mental illness and substance abuse disorders.

The closure of two state psychiatric hospitals, Fairfeild Hills and Norwich, was to have been followed by a commensurate transfer of resources to community settings. This never happened and now there are too few inpatient beds as well. As a result, psychiatric patients in Connecticut languish in the streets, or in nursing homes, emergency rooms, shelters, and, worse, in jails and prisons. To compound the problem, diminished reimbursement from Medicare, Medicaid, and third-party payers (HMOs and others) to private psychiatric hospitals and general hospitals with psychiatric programs has made it almost impossible for these nonprofit institutions to provide psychiatric services without losing money. One after another, these institutions have downsized psychiatric services or sought outright to close mental health programs—not out of a determination that they are no longer needed—but out of financial desperation. This trend has escalated to a crisis of such proportions that the Office of Health Care Access has recently imposed a moratorium on all such closures requiring Certificate of Need approval while a group composed of leaders of various state agencies seeks a longer-term solution. This system is clearly dysfunctional.

Patients' Rights vs Public Safety.—As Joshua's story instructs, the tenuous balance between the rights of individuals with mental illness and the need for treatment must be re-examined with regard to involuntary outpatient treatment. The controversy around the issue of dangerousness continues, though it is well established that only a small subgroup of patients with generally identifiable characteristics (eg, actively delusional, noncompliant with treatment, substance abusing) represent any significant danger. Will society enhance the level of services provided to such patients and develop programs that proactively draw them into treatment but, also, treat them involuntarily if they refuse?

Adequate funding for consistent case management, housing, and community-based rehabilitation programs are critical to recovery, as are sufficient hospital and residential beds for acute episodes of illness. Jail diversion programs are equally critical to ensure that nonviolent offenders receive treatment rather than incarceration. Prison mental health programs, for those who are incarcerated, must adequately meet the needs of those they serve.

Child and Adolescent Services Are in Crisis.—Nowhere is the need for a comprehensive system of care greater than in child and adolescent mental health services. Here, Connecticut's system of care can truly be described as in crisis. Children in serious need of inpatient care can't be admitted because the beds are filled with kids who no longer need such care but have no reasonable disposition, be it residential, foster care, or a return to home with sufficient support. Recently, one adolescent spent two full weeks in the Emergency Room at New Britain General Hospital because there was simply no adolescent psychiatry bed available in Connecticut. Other children are sent out of state for lack of placements locally. On any one day, there are more than 80 children who are charges of the Department of Children and Families (DCF) on psychiatric inpatient units, though more than half of them don't need to be there. They languish there, sometimes for months, because our system simply has no adequate downstream placement for them. They are considered to be "subacute" by DCF and the managed care payers, so the hospitals are paid less than half of what it costs to have them there, worsening the financial pressures. In the meantime, the kids who are really acute sit in Emergency Rooms. This crisis has been building for years while DCF has been unable to resolve it. One must ask if DCF isn't overwhelmed by its multiple responsibilities: child welfare, juvenile justice, and mental health services for children.

What About Prevention?—It's difficult to think about children without considering the role of prevention programs. The mental health system cannot be responsible for all of society's failures, yet the system is often expected to act as the safety net when all else fails. It is self-evident that poverty, child abuse, community violence, drug abuse, teen pregnancy, welfare dependence, and a host of other factors impact mental health and mental illness and yet there is no coordinated effort by the various state agencies involved to focus on primary prevention as a path to mental health.

The sources of all these problems are too numerous and complex to report here. The Blue Ribbon Commission is correct, however, in identifying two critical issues: the financing of services, and accountable collaboration between the agencies providing mental health services are keys to any solutions. It must be acknowledged that these problems are unlikely to be solved by merely taking resources out of one level of service (eg, inpatient beds) and applying them to another (eg, community based programs). The bottom line is that mental health services are underfunded in Connecticut and the establishment of a safe, effective, and equitable system will require an additional commitment of resources.

The Surgeon General Speaks Out.—In his recent groundbreaking report on mental health,[2] the Surgeon General noted that "... the neuroscience of mental health—a term that encompasses studies extending from molecular events to psychological, behavioral, and societal phenomena—has emerged as one of the most exciting arenas of scientific activity and human inquiry." At the same time, "Tragic and devastating disorders such as schizophrenia, depression and bipolar disorder, Alzheimer's disease, the mental and behavioral disorders suffered by children, and a range of other mental disorders affect nearly one in five Americans in any year, yet continue too frequently to be spoken of in whispers and shame."

This is an exciting time for psychiatry. The growth in our understanding of mind, brain, and behavior has been explosive. Hopefully, in this atmosphere of excitement, guided by the work of the Blue Ribbon Commission and prodded by advocates for the mentally ill, Connecticut will work to eliminate the stigma attached to mental illness and to correct the crisis in the availability of, and access to, comprehensive mental health services.

Harold I. Schwartz, M.D.
Psychiatrist-in-Chief and Vice President,
Behavioral Health,
Hartford Hospital/The Institute of Living, Hartford

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1. John G. Rowland, Governor: State of Connecticut Executive Order No. 17. 24 January 2000.
2. U.S. Department of Health and Human Services: *Mental Health: A Report of the Surgeon General*, Rockville, Maryland: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health; 1999.

We at *Connecticut Medicine* wish to express thanks to our guest editor, Dr. Harold Schwartz, for taking on the task of organizing and securing the feature articles for this special issue on mental health. He and his colleagues are to be congratulated for collectively delivering an excellent edition of the journal including a cover design appropriate to the content. It is fortuitous that Dr. Burlingame's presentation on psychiatry (page 357) appeared exactly 50 years ago.

H. David Crombie, M.D., *Editor*

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The Use of Psychotropic Medications in Young Children: The Facts, the Controversy, and the Practice

DOROTHY E. STUBBE, M.D. AND ANDRÉS MARTIN, M.D.

ABSTRACT—There has been recent concern by the public and physicians alike over reports that increasing numbers of young children are being prescribed psychotropic medications. The report by Zito and colleagues addressing this subject that appeared in the 23 February 2000 issue of *JAMA* sparked enormous controversy and was the impetus for a White House Conference just one month in its wake (20 March 2000). State and federal agencies have considered legislation to regulate the practice of prescribing psychotropic medications to preschool children. Special aspects of the use of psychotropic medication in preschool children are reviewed, with recommendations for evaluation and treatment decisions. The need for data and research in this area is highlighted.

OVER the past 10 years there has been an increasing use of psychotropic medications in children and adolescents by primary care and psychiatric specialty physicians.[1–6] With the exception of the stimulant medications, whose effects have been studied extensively in school-age children with attention-deficit/hyperactivity disorder, most of the remaining psychotropic medications have not undergone the rigorous testing and research required for "labeling" by the Food and Drug Administration (FDA) for pediatric patients.[6,7] Therefore, physicians have had to rely on studies of safety and efficacy in adults with similar conditions and extrapolate to the pediatric population, a practice that is fraught with potential invalidities.[7,8] The pediatric use of psychotropic medications is of enormous public health relevance, given estimates that 6% to 10% (around eight million) children and adolescents suffer from a serious emotional, behavioral, or mental disorder.[9] Many of these children and adolescents may benefit from the judicious use of medications as part of a comprehensive treatment program.

Concerns about the lack of data in pediatric psychopharmacology have made this a major agenda of the National Institute of Mental Health, leading to the establishment of seven Research Units on Pediatric Psychopharmacology (RUPPs), a network where clinical studies focus on the effectiveness and safety of psychotropic medications in children.[7] Among the RUPP studies presently underway, fluvoxamine (a selective serotonin reuptake inhibitor antidepressant, SSRI) is being evaluated in the treatment of childhood anxiety disorders, and risperidone (an atypical antipsychotic) in that of autistic disorder.[10] Additional efforts to expand the empirical base for the prescription of medications in children—psychotropic and otherwise—have likewise been on the increment.[11] These have included the formation of the Pediatric Pharmacology Research Units (PPRUs), and industry incentives in the form of lengthened patent times for agents specifically evaluated in children.

Special Issues in the Use of Psychotropic Medication in Preschool Children

The efficacy and safety of psychotropic medications in infants and preschool children has been minimally studied.[7,12] Stimulants are the best studied psychotropic class in this age group.[13–19] As summarized in Table 1, few agents have safety and efficacy data sufficient to support FDA labeling for preschool children.[20] Adderal (amphetamine racemic mix), Dexedrine, and Dextrostat (dextro-

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DOROTHY E. STUBBE, M.D., Assistant Professor, Yale Child Study Center, Yale University School of Medicine,New Haven; ANDRÉS MARTIN, M.D., Assistant Professor, Yale Child Study Center, Yale University School of Medicine, New Haven.

amphetamine) are approved for ages three and older. Ritalin (methylphenidate) and Cylert (pemoline) are approved for ages six and older. In general, stimulant efficacy in preschool children is more variable than in older children, and the rate of short-term side effects is higher, especially sadness, irritability, clinginess, insomnia, and anorexia.[15,21] Long-term studies of safety and efficacy rarely have been performed.[22]

Many other psychotropic medications do not carry any specific labeling for the treatment of psychiatric conditions in the pediatric age group. Preschoolers and children are often subsumed under a standard exclusion that states "safety and efficacy have not been established in children." Phase II pharmacokinetic studies required by the FDA as part of the New Drug Application process for drug approval and labeling, which could determine if

Table 1.—Current FDA Age-Labeling of Common Psychotropic Medications

Medication Class	Generic Name	Brand Name	Approved Age
Stimulants			
	Amphetamine	Adderal	3 and older
	Dextro-amphetamine	Dexedrine	3 and older
	Dextro-amphetamine	Dextrostat	3 and older
	Methylphenidate	Ritalin	6 and older
	Pemoline	Cylert	6 and older
Alpha 2 Adrenergic Agonists			
	Clonidine	Catapres	12 and older
	Guanfacine	Tenex	12 and older
Antidepressant and Antianxiety Medications			
	Bupropion	Wellbutrin	Not approved for under age 18
	Citalopram	Celexa	Not approved for under age 18
	Clomipramine	Anafranil	10 and older (OCD)
	Doxepin	Sinequan	12 and older
	Fluoxetine	Prozac	Not approved for under age 18
	Fluvoxamine	Luvox	8 and older (OCD)
	Imipramine	Tofranil	6 and older (Bedwetting)
	Nefazodone	Serzone	Not approved for under age 18
	Nortriptyline	Pamelor	Not approved for under age 18
	Paroxetine	Paxil	Not approved for under age 18
	Sertraline	Zoloft	6 and older (OCD)
	Venlafaxine	Effexor	Not approved for under age 18
Antipsychotic Medications			
	Chlorpromazine	Thorazine	2 and older
	Haloperidol	Haldol	3 and older
	Mellaril	Thioridazine	2 and older
	Olanzapine	Zyprexa	Not approved for under age 18
	Pimozide	Orap	12 and older
	Quetiapine	Seroquel	Not approved for under age 18
	Risperdal	Risperidone	Not approved for under age 18
Mood Stabilizers			
	Carbamazepine	Tegretol	Any age (for seizures)
	Divalproex sodium	Depakote	2 and older (for seizures)
	Gabapentin	Neurontin	12 and older (for seizures)
	Lamotrigine	Lamictal	16 and older (for seizures)
	Lithium carbonate	Eskalith	12 and older
	Lithium carbonate	Lithobid	12 and older
	Lithium citrate	Cibalith-S	12 and older

preschoolers metabolize psychotropic drugs at different rates, are not routinely carried out in the preschool age group.

Lack of clarity about the interaction between psychotropics and longer-term effects on the developing brain, add a further confounding factor to medication use in young children.[23] Rodent studies have suggested that "the plasticity of the brain in early life is such that early blockade of a neurotransmitter system can lead to a permanent downregulation of that system, whereas early stimulation results in an upregulation that persists for the rest of the animal's life."[23] Noninvasive imaging techniques such as magnetic resonance spectroscopy (MRS) and functional magnetic resonance (fMRI) are promising approaches to studying the effects of psychotropics on the developing human brain.

In addition to different patterns of response, there likely are age-specific vulnerabilities to side effects. Newborns and infants have decreased capacity to metabolize psychotropic drugs because of lower liver enzyme activity and lower renal clearance. For example, valproic acid (Depakote) has known hepatotoxicity for children under the age of two years.[20] After the age of one to two, metabolic factors approach adult levels. Indeed, the child's typically efficient hepatic and renal function may result in faster metabolism and disposition of drugs. More studies are needed to elucidate the differences between adult and child pharmacokinetics.

The Prevalence of Psychotropic Medication Prescription in Preschool Children

Despite the lack of research on efficacy and long-term safety of most psychotropic medications, there is substantial evidence that an increasing number of young children are being given psychotropic medications for a variety of behavioral problems.[2,5,24,25]

The recent study by Zito and colleagues[5] surveyed ambulatory care prescription records from two state Medicaid programs and a health maintenance organization (HMO), to compile a population-analysis of three one-year cross-sectional data sets for the years 1991, 1993, and 1995. Sizable increases in prevalence were noted between 1991 and 1995 across the three sites for stimulants, antidepressants, and clonidine, while neuroleptic use increased only slightly (see Table 2). In particular, stimulant treatment in preschoolers increased approximately three-fold during the early 1990s, which is consistent with the reported 2.5-fold increase in the prevalence of methylphenidate treatment for youths aged five to 18 between 1990 and 1995.[4] Antidepressants were the second most commonly prescribed psychotropic class of drugs for preschoolers. Tricyclic antidepressants represented the bulk of early childhood antidepressant use, although there was growth in the use of the newer selective serotonin reuptake inhibitors (SSRIs).

Worth noting in the Zito study was that decreases occurred in the relative proportions of the older, better studied agents in the stimulant and antidepressant classes, while increases occurred for newer, less established agents. Although many of the newer medications were formulated to minimize side effects, it is not clear if newer is necessarily better in children. Zito and colleagues concluded that the increasing use of medications in the preschool population calls for prospective, community-based, multidimensional outcome studies.

Reasons for the increasing use of psychotropics in young children have not been elucidated fully, but may include: 1) expanded diagnostic criteria for ADHD, thus increasing the number of children who may be diagnosed with the disorder; 2) the recent labeling for children three and older of Adderall, Dexedrine, and Dextrostat (Ritalin remains labeled for the age group of six and older), as well as the recent labeling of Sertraline (Zoloft) for children six and older. Divalproex sodium (Depakote) and carbamazepine (Tegretol) are labeled for children of two or older, but only for seizure indications; 3) greater acceptance of biological treatments for behavioral disorders; 4) the expanded role of school and preschool teachers and health personnel in identifying children in need of referral for treatment; 5) the increased pressure from managed care for briefer evaluations and more rapid-acting treatments.[5,26]

Table 2.—Annual Prevalence Rate per 1,000 Two- to Four-Year-Old Children
(Results of the Zito et al Study in *JAMA*, 23 February 2000)

Type of Therapy	**Prevalence Rates Across Three Sites (95% Confidence Interval)**		
	1991	**1993**	**1995**
Stimulants	1.7 to 4.9	3.3 to 7.6	5.1 to 12.3
Antidepressants	0.5 to 1.4	0.6 to 2.1	0.7 to 3.2
Clonidine	0.1 to 0.2	0.4 to 0.5	1.4 to 2.3
Neuroleptics	0.1 to 0.7	0.1 to 0.7	0.2 to 0.9

Recommendations for Treating Physicians

As summarized in the 20 March 2000 White House Conference on Treatment of Young Children with Mental Conditions, "Although progress has been made in diagnosing the mental illnesses that begin in childhood, children's brains are in a state of rapid change and growth, and diagnosis and treatment of mental disorders must be viewed with this in mind.... Treatment decisions should be weighed for risks and benefits, and each child should be viewed individually."[27]

The developmental context of symptoms and the severity of functional impairment are essential to consider in the assessment of the young child presenting with behavioral or emotional difficulties. Preschool children are exquisitely sensitive to environmental influences, and a young child presenting because of parental concern about his or her behavior requires a full evaluation. Such an assessment includes full developmental, medical, symptom, and family histories, information from the preschool, and a family and child diagnostic interview and physical examination of the child.[28] Standardized rating scales, such as the Conner's scale for parents and preschool teachers, are often helpful.

In addition to a full assessment, areas of particular relevance to the preschool child include a higher index of suspicion for neglect, abuse, or other adverse environmental factors, a likely need to evaluate lead levels, and the increased potential for the child requiring further evaluation, such as speech and language assessment, cognitive testing, and assessment for comorbid disorders.[21]

The present state of the art in the treatment of ADHD in young children is multimodal in nature,[29,30] includes parent training, placement in a structured, well-staffed preschool program, and behavioral treatments. Medications may be considered for young children with severe functional impairment, but assessment of risks *vs* benefits should be ongoing. If medications are used, increased caution, frequent monitoring of effectiveness and side effects, and lower doses are recommended. More research to guide clinical decision-making clearly is needed. In the meantime, it is incumbent upon physicians to think critically and to use extreme caution in the medication treatment of young children.

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Electroconvulsive Therapy: Clinical Science *vs* Controversial Perceptions

JOANNA FOGG-WABERSKI, M.D. AND WITOLD WABERSKI, M.D.

ELECTROCONVULSIVE therapy (ECT) remains one of the most controversial treatments currently used in psychiatric practice despite its long-standing record of safety and efficacy. This controversy has been fueled by attention generated from the media, by the compelling testimony of former patients, and by the nature and history of the treatment itself.[1,2] A brief discussion of the origins of ECT is helpful to understanding how this dramatic form of therapy came to be incorporated in psychiatric practice and why it continues to be enigmatic to both medical practitioners and the general public.

Historically, the therapeutic value of induced convulsions was not initially linked to electricity but to other methods of inducing seizures. In the early 1930s, researchers in Europe induced convulsions by injections of insulin and later with other drugs such as camphor in oil and Metrazol (a convulsive agent). The first successful electroconvulsive treatment was described to the medical world in 1938 when two Italian psychiatrists, Ugo Cerletti and Lucio Bini, administered an electrical stimulus to induce convulsions in a human.

Since then, introducing ECT as a treatment in the United States has not been an easy matter. The United States, after all, was the country that invented the electric chair. Electrocution was used in this country for executing imprisoned murderers. Cerletti and Bini's experiment with ECT was the only other circumstance in which loss of consciousness had been induced purposefully via electric current.[3] Decades ago, patients underwent ECT without anesthesia. Unmodified treatments did harm memory, so much so that memory loss came to be seen as an essential part of the treatment. Some patients experienced bone fractures from uncontrolled motor seizures induced by ECT. In addition to the physical trauma, graphic examples of abuse in books and movies (eg, Ken Kesey's "One Flew Over the Cuckoo's Nest") have portrayed ECT as punitive, cruel and violative of patients' legal rights. One can understand the concerns that have been linked to this form of therapy since its inception.[4]

With the introduction of anesthetic induction agents, muscle relaxants, and monitoring, the adverse physical effects of ECT have been significantly attenuated. This has made the procedure more acceptable to the medical community and to the general public in North America. The description "electroconvulsive therapy" came to be used in place of Cerletti's more disturbing term, "electroshock treatment." In today's psychiatric practice, ECT typically involves a series of six to 12 treatments of electrically induced grand mal seizures administered under general anesthesia to a patient with a severe emotional disorder. Examples of mental illnesses which respond best to ECT are major depression with psychosis, acute mania, and catatonia. Recent studies have expanded treatment indications to other conditions such as Neuroleptic Malignant Syndrome, Parkinsonism, and schizophrenia. While beneficial effects of electrically induced seizures are evident and predictable in most patients, a unified mechanism of action has not yet been established and remains the subject of numerous investigations. ECT treatments can be administered on an inpatient or outpatient basis depending on the severity of symptoms.

JOANNA FOGG-WABERSKI, M.D., Director, Electroconvulsive Therapy Services, The Institute of Living: Hartford Hospital's MentalHealth Network, Assistant Clinical Professor, Department of Psychiatry, University of Connecticut School of Medicine; WITOLD WABERSKI, M.D., Assistant Director, Department of Anesthesiology, Associate Director, Surgical Critical Care Medicine, Hartford Hospital, Hartford.

The most common side effect of ECT, feared by patients and their families, is memory loss. Cognitive deficits are known to affect patients undergoing ECT. These can be categorized as: acute, subacute, and long-term effects. Acute disturbance of orientation and memory can take place immediately following ECT with lasting effects from one to several hours. Subacute effects may persist for days or weeks following completion of the course of ECT. Although there are occasional anecdotal reports of permanent (long-term) memory loss, substantiation of these reports remains a legitimate topic for longitudinal study. Adverse cognitive effects of ECT have been reduced by the use of standardized ECT equipment delivering brief pulse stimulation (as opposed to sine wave stimulation). Unilateral electrode placement over the nondominant hemisphere also significantly reduces the patient's exposure to post-ECT memory loss. It is recommended that all patients undergoing ECT should have their cognitive functions (particularly memory) closely monitored with mental status assessments performed throughout the course of treatment. Occasionally, in patients suffering from pre-existing cognitive impairment, detailed neuropsychological testing pre- and post-ECT is necessary in order to disentangle the effects of illness from those of the treatment.[5]

The current practice of ECT is considered safe and clinically effective. The efficacy of ECT has been well established in study after study. The published experience has been peer-reviewed and endorsed by commissions and task forces delegated from the American Psychiatric Association and most recently from the Office of the Surgeon General. The overall safety record of ECT has been remarkable, especially when considering the risk to benefit ratio for patients with severe emotional disorder who are actively suicidal or severely malnourished. In the United States an estimated 100,000 patients per year receive electroconvulsive treatment. In 1988, the mortality rate had been reported at approximately one death per 10,000 patients treated. The rate of significant morbidity and mortality at that time was believed to be lower with ECT than with administration of antidepressant medications, despite the frequent use of ECT in patients with medical complications and in the elderly.[6,7] For many elderly depressed patients with medical comorbidities, ECT is the safest and most effective treament available.

Today, the media controversy over the use of ECT is not about its safety and efficacy but rather about the public and (sometimes) professional perception that ECT is invasive and brain damaging, and that no reasonable person can give an informed consent for such an invasive treatment. Attacks on ECT continue to be featured on television, radio talk shows, and in newspaper articles. Activist antipsychiatry groups frequently launch protests and disrupt scientific proceedings in an effort to advocate against any biological psychiatric treatment. L.Ron Hubbard, founder of The Church of Scientology, has proclaimed to his international following that ECT treatments are immoral and brain damaging. In 1995, a series of four articles published in USA Today were written in conjunction with the debates in the Texas legislature to outlaw ECT. The series alleged that practitioners use ECT because of financial incentives and that death rates were much higher than were reported in the psychiatric literature. The original draft of The Surgeon General's Report[7] on mental health in August, 1999 touched off an uproar among antipsychiatry groups prior to its release, with critics objecting to the Surgeon General's endorsement of the continued use of ECT and the recognition of its efficacy and safety.[4]

Unfortunately, this media sideshow has neglected the fundamental controversy, which is driven by professional-philosophical differences between the legal and medical professions over patients' health care-related rights. These differences evolved during the political upheaval of the 1960s. One of the elements of that revolution was the patients' rights movement, and ECT became one symbol of the plight of patients allegedly at the mercy of a paternalistic mental health establishment. Suits were filed against hospitals and doctors, and legislatures were urged to restrict severely the conditions under which ECT could be performed. This in turn spurred the medical and legal communities to establish standards, statutes, and regulations for the practice of ECT over the next several decades. A different perspective is presented in the recommendations from each community. The legal community, which places great value on personal autonomy, suspects medicine's paternalistic tendencies. Court decisions from several cases during the 1970s attempted to prevent ECT from ever being administered without assurance of genuine, responsible, and even independent consent. State statutes and regulations range in intent from a minimal goal of requiring appropriate consent to attempts to control nearly every aspect of treatment. In some states regulatory requirements are so stringent as to have the affect of virtually proscribing the administration of ECT to those who are most ill.[8] Medicine, on the other hand, stresses caring values and often finds law insensitive to the realities of medical practice. In 1974 and then again in 1985 and 1999, the APA appointed a task force to study and to make recommendations on the practice of ECT. The task force, in its report, seeks to guarantee minimum restriction of judgment and medical management decisions and the avoidance of unnecessary delay in providing treatment.[9]

The current proposed APA Task Force Report on the Practice of Electroconvulsive Therapy (to be published in

2000) has been extensively revised to include substantially updated clinical and scientific information, enhanced training and privileging standards, and suggestions for new legal and ethical standards. Most important are the revisions pertaining to informed consent. These have been recommended in an effort to deal with consumer concerns as well as judicial and regulatory determinations dealing with the informed consent process. The current Task Force Report states that significant discussion with the ECT consentor/patient must be documented. Moreover, if the consentor/patient expresses reluctance to continue with ECT at any time he should be reminded of his right to accept or refuse treatment.[10]

Clearly, the psychiatric community must continue to promulgate comprehensive safeguards for ECT. At the same time, it is hoped that legislatures, the courts, and the public will recognize the benefits of a treatment which has been in use for more than 65 years and has earned its selective place in mental health therapy.

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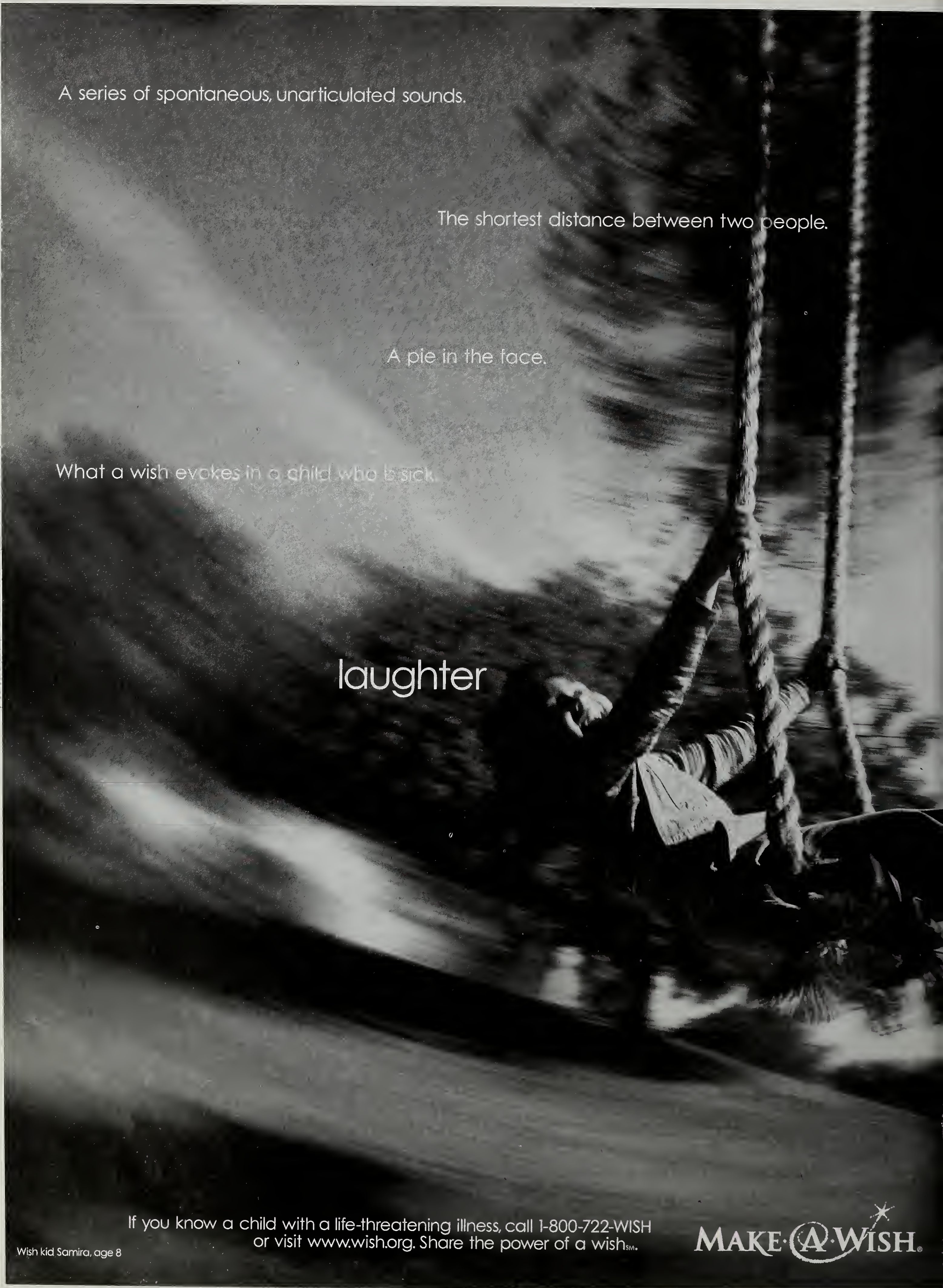

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Early Identification and Intervention in Psychotic Illness

TANDY J. MILLER, PH.D. AND THOMAS H. McGLASHAN, M.D.

ABSTRACT—Early detection and intervention strategies in persons who present with recently developing "prodromal" symptoms that look like early versions of the symptoms of psychosis are being investigated at a special outpatient clinic at Yale Medical School. The study aims to test whether treatment, including newer antipsychotic medication, can treat these symptoms and, in addition, might prevent or delay the onset of psychosis. Here we describe the clinic, the study, and the symptoms to look for in patients who may be at high risk for becoming psychotic in the near future. We also discuss the practical and ethical ramifications of this promising new direction in the treatment of serious mental illness.

JACK is a 17-year-old male currently in the 11th grade. Throughout his education, Jack had been an average high school student, achieving grades in the "A to B" range. Although, historically, he had engaged in social activities, it was with a certain social awkwardness. In the recent 12 months, however, Jack's grades began slipping. During this same period of time, he became more socially isolated and cut back on extracurricular and athletic activities. His parents were concerned because he had become more irritable. His primary care clinician recognized that he had an exaggerated level of suspiciousness that seemed to border on paranoia.

Jack is not alone in his experiences. Rather, he is representative of patients who have been referred to the PRIME Research Clinic (Prevention through Risk Identification, Management, and Education), a new program at Yale University. The PRIME program focuses on the early identification and intervention with patients who may be at risk for developing what commonly are considered to be the most serious of the mental illnesses, psychotic disorders, such as schizophrenia. PRIME offers evaluation and participation in studies aimed at preventing or delaying the onset of serious mental illness or mitigating the severity of any future psychotic symptoms that may develop.

Upon his initial evaluation at PRIME, Jack revealed that he occasionally thought that the entire sophomore class was watching him. Upon reflection he was able to acknowledge the unlikelihood of his suspicion. He began feeling uncomfortable in crowds because he sometimes believed that people might be smirking at him. In addition, he described a newly emerging perceptual abnormality of hearing "a little sound that is far away." He explained this as his mind "playing tricks."

Although Jack's experiences are representative of many young people who are at-risk for developing a psychotic illness, as a group they are heterogeneous. Most seem to have some difficulty studying or working. They may be experiencing a recent drop in grades or a decline in functioning. They may recently have lost their job, started switching jobs frequently, or found themselves on probation or unemployed. Most often people who are at risk are or become socially isolated from their friends and possibly from their families. Sometimes people who are experiencing the beginnings of a psychotic disorder seem "odd" or "bizarre" to others. Other people who are at risk may be

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TANDY J. MILLER, PH.D., Assistant Clinical Professor of Psychiatry, Yale University School of Medicine, Director, PRIME Research Center, New Haven; THOMAS H. McGLASHAN, M.D., Professor, Department of Psychiatry, Yale University School of Medicine, Executive Director, Yale Psychiatric Institute, New Haven.

experiencing early, subtle changes in the way things look or sound to them, or may have more obvious perceptual symptoms and start to see or hear things that others do not. Still others may, like Jack, become suspicious beyond what one might consider to be normal. Commonly, "at-risk" individuals also experience general and diffuse symptoms such as tiredness, lethargy, lack of motivation, depression, and anxiety. They may exhibit little emotionality, or conversely, emotional outbursts.

The onset of psychotic illnesses such as schizophrenia most often occurs in adolescents and young adults. Although people who have a relative with schizophrenia are 10-fold more likely to develop this disease, 85% of people who develop schizophrenia have no relative with the illness. The lifetime prevalence of schizophrenia is high, effecting 1% of the population. The seriously debilitating deficits and disabilities associated with schizophrenia can last a lifetime, cause enormous suffering for patients and families, and represent significant service burdens on health-care systems.

Currently accepted treatments for schizophrenia, such as medication, family support/ psychoeducation, and continuity of care have proven to be effective in treating some symptoms of the illness. These treatments, however, remain palliative and do not effect the vulnerability to develop symptoms nor do they dramatically alter the long-term course of disease.[1] Historically, accepted clinical and ethical practice dictated that these treatments be administered only when the disease was definitively present. However, a number of developments in the past decade are heralding a reorientation of the treatment of psychosis towards early identification and intervention. As with any new orientation, concerns and controversies have been raised. Nonetheless, compelling results from world-wide studies support exploring this direction through serious clinical research.

The interest in early identification and intervention in psychotic disorders is relatively new, but has seen accelerated growth since the early 1990s. One development contributing to this momentum has been increasing appreciation that central nervous system neurobiological deterioration may precede onset of illness by months or years[2] and be irreversible by the time of onset. These neurobiological deficit processes are often responsible for major losses of functioning and life-long chronicity. Researchers hope that treatment in the earliest stages may truncate the deteriorative processes, thereby altering the natural course of the disease. Consistent with this emerging understanding is that the earlier treatment is received post-onset, the better the short- and long-term prognosis tends to be.[3–10] A causal relationship between early treatment and the better course has yet to be demonstrated, but the consistent correlation between the two is compelling. This plus the development of novel neuroleptic medications that appear safer than conventional antipsychotics has helped to render the idea of early intervention both feasible and ethical.

The most significant advancement in the 1990s tipping the risk/benefit ratio toward early intervention in psychotic illness has been the development of diagnostic criteria that appear to identify subjects at high risk for conversion to psychosis in the near future. Ultimately the future may see risk for schizophrenia being determined by genetic markers alone. In the meantime, however, researchers in Melbourne, Australia have rendered early identification of risk feasible using clinical signs and symptoms. They have described nonspecific attenuated symptoms of psychosis, signs of general distress, and varying degrees of functional disability in the earliest phase of a developing psychotic illness. Using these clinical markers, they have identified a subgroup of individuals who have a high risk of "converting" to psychosis within one year. Their "at-risk" criteria include clinical, functional, and demographic phenomonologies that are easy to identify and to operationalize. Following these identified at-risk individuals, the Melbourne group found that 41% of their sample became psychotic within one year of initial evaluation.[11]

The Australian "at-risk" criteria defined three states.[12] In the first state individuals present with attenuated or mild, positive psychotic symptoms. These symptoms might include suspiciousness, as described in Jack's case, perceptual changes (beginning to hear and see things that others cannot), unusual thoughts or ideas, and conceptual disorganization. These clinical symptoms look like symptoms common to the psychotic state but in a milder form.

In the second state individuals present with a genetic risk for psychosis and a recent, serious deterioration of functioning. Genetic risk, in this case, would be defined as having a relative with any psychotic illness or meeting the criteria for Schizotypal Personality Disorder. The deterioration in functioning may take many forms, such as a decrease in academic performance, difficulty at work, conflict with friends or family, an emerging history of legal arrests, poor judgement, difficulty thinking, depression, or anxiety. The third group of at-risk states was designed for individuals who present with brief psychotic states that fail to meet psychosis duration criteria by most current diagnostic systems.

The subgroup criteria developed by the Australian researchers were incorporated into measures developed by researchers at the PRIME Research Clinic. These are the Scale of Prodromal Symptoms, (SOPS) and the Structured Interview of Prodromal Symptoms (SIPS).[13] Both the SOPS and the SIPS are used to identify individuals who are eligible to participate in the early detection and intervention studies at Yale University. After two years of operation, researchers at the PRIME Clinic have established a rate of conversion to psychosis for individuals in the study that has been substantial, lending support to the high predictability of these criteria.

Cumulatively, these developments provide a compelling rationale for conducting research into early detection and interventions. One aim of the ongoing work at the PRIME Research Clinic is to test whether active antipsychotic mediation *vs* placebo can delay or avert the transition from a prepsychotic state to a full-blown, psychotic episode. Participants, age 12 to 45, who are evaluated as being at risk for developing psychosis, are invited to participate in the two-year PRIME study. During the first year of this program, patients receive active treatment, including a psychosocial intervention and a double-blind, placebo-controlled medication trial. The second year of the program consists of follow-along monitoring. If during the course of their participation in PRIME, any patient develops psychosis, the double-blind placebo-controlled study is stopped and the patient is offered active open-label treatment and a sixth-month period of stabilization and observation. Another primary goal of the PRIME Clinic is to provide extensive psychoeducation to mental health clinicians, primary care providers, educators, and the general public about the earliest signs of psychotic illness.

The double-blind placebo structure of this PRIME research program provides an opportunity to study a population that, with the exception of the current work of the Australians, has never been identified and followed prospectively. Such high predictability for imminent conversion to psychosis is new to the field of preonset indicators of vulnerability. Numerous childhood deficits in development, social functioning, cognitive, and scholastic performance have been linked statistically and retrospectively to the development of schizophrenia in high-risk and birth cohort studies. All of these markers, however, when used for evaluation purposes, identify large numbers of false positives; ie, people who meet "at-risk" criteria, but who will not develop a psychotic illness.[14] The Australian classification of relevant clinical and behavioral markers, however, has allowed predictive accuracy to take a quantum leap. Further studies of discriminating markers of high-risk undoubtedly will enhance our accuracy. The current criteria, however, predict imminent conversion to psychosis in a sufficiently high percentage of a prodromally symptomatic population to call into question the ethics of the conservative "wait and see" approach that represents the status quo.

In an effort to identify patients who are eligible to participate in the PRIME Research Clinic, extensive contact has been made with practitioners in Connecticut. Throughout the discussions with community practitioners, the overall response to the efforts at PRIME has been enthusiastic. As expected, however, numerous questions have arisen concerning the ethics of the study. Several primary care clinicians, mental health clinicians, and educators have wondered why all young people who are clearly symptomatic are not being medicated. Alternatively, an equal number of clinicians and educators have wondered how the PRIME program can ethically treat people with medication who are not diagnosed with a mental illness. Herein lies the dilemma associated with early intervention in psychotic illness.

The concept of equipoise was introduced to discussions of medical research ethics and defined as a state of "genuine uncertainty" on the part of a clinician whether or not to implement active treatment. Equipoise also refers to a state that invites or even requires research to be undertaken. We believe such a state exists for early detection and intervention in psychosis.

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Syndrome X, Depression, and Chaos: Relevance to Medical Practice

THOMAS D. STEWART, M.D. AND STEPHEN A. ATLAS, M.D.

ABSTRACT—The low detection rate and undertreatment of depression in general medical practice is pervasive.[1] The persistence of this problem suggests that doubt remains within elements of the medical profession that depression is a medical condition meriting medical treatment, as opposed to an existential state, inevitable for the human condition. Depression is a physical and psychological clinical disorder which affects every aspect of human physiology. As such it deserves consideration as a comorbid medical illness requiring treatment as does hypertension in relation to diabetes.

This article will illustrate how clinical depression is a comorbid medical illness requiring detection and treatment through the analysis of depression's impact on two conditions called Syndrome X. Conditions labeled Syndrome X in endocrinology and cardiology demonstrate how depression amplifies the pathophysiology of endocrine and cardiac disease and diminishes functional variability (regularizes variance) found in normal physiology.

ENDOCRINE Syndrome X (ESX) is also known as Reaven's Syndrome. It is type 2 diabetes mellitus accompanied by hyperlipidimia, hyperinsulinemia, and hypertension due to increased insulin resistance.[1] Cardiac Syndrome X (CSX) describes a pattern of angina-like chest pain in the absence of sufficient cardiac arterial disease to explain the pain.[2]

Depression amplifies the pathophysiology of ESX and CSX through regularization of healthy variance in physical function. The mathematical equations describing normal cardiac rhythm variance and endocrine flux involve nonrandom chaos, which sounds like an oxymoron. Nonrandom chaos is the complex variation in anatomic structure and physiologic function necessary to adapt to an ever-changing world.[3] An example of nonrandom chaotic (or fractal) structure is the shape of an oak tree. Within broad parameters that shape is not exactly predictable. A storm or worm crawling over a developing tree bud can permanently alter that shape. Arterial and venous trees or the His-Purkinje network are examples of nonrandom chaotic or fractal structures.

Disease states often involve loss of this complex variance, namely regularization. What could be more regular than the EKG found in ventricular tachycardia or the gait and tremor seen in basal ganglion disease?[4,5]

Depression impacts ESX and CSX through both regularization of physiologic variance and amplification of pathologic processes. First, consider the impact of depression in CSX in light of the known interaction between depression and cardiovascular function. Depression regularizes heart rate.[6,7] R-R regularization is a negative predictor for survival postmyocardial infarction.[8] Heart rate often increases with depression due to increased peripheral sympathetic activity.[9] In light of increased cardiac rate and rate regularization, it is not surprising that depressed people have a higher incidence of ventricular tachycardia than matched nondepressed.[10] Furthermore, depression activates platelets in those with coronary artery disease.[11] The serotonin 5HT2 receptor is upregulated in both platelets and the brain during depression.[12] The 5HT2 receptor helps activate the IIb/IIIa platelet mem-

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THOMAS D. STEWART, M.D., Associate Clinical Professor of Psychiatry, Yale University School of Medicine, New Haven, Chairman of Psychiatry, Hospital of St. Raphael, New Haven; STEPHEN A. ATLAS, M.D., Medical Director, Primary Care Center, Hospital of St. Raphael, New Haven, Associate Clinical Professor of Medicine, Yale University School of Medicine, New Haven.

brane system which causes platelet aggregation and thrombus formation. Depression increases mortality five-fold post-M.I.[13] It also increases the risk of myocardial infarction and increases the likelihood of coronary artery disease.[14,15]

Depression also amplifies pain of any kind including angina.[16,17] For example, 30% of all patients who have negative cardiac angiography following chest pain have panic disorder.[18] Panic disorder and depression have 50% comorbidity.[19]

Thus CSX and depression are clearly linked. Depression amplifies chest pain and increases cardiac risk by a variety of mechanisms previously described.

ESX and depression are also linked. Depression produces a chronic and generalized stress response featuring increased corticotrophin releasing factor (CRF), increased ACTH with increased circulating cortisol levels, as well as increased peripheral adrenergic activity.[20,21] CRF and ACTH circadian rhythm is blunted because levels remain chronically elevated in depression.[22] Each of these endocrine changes increases insulin resistance and increases plasma lipid levels. Thus, depression amplifies the pathophysiology of ESX and regularizes normal hypothalamic adrenocortical diurnal variance.

The amplification of pathologic process and the regularization of healthy physiologic variance by depression has treatment implications. Recognition and treatment of depression can restore nonrandom chaotic variance found in normal cardiac and endocrine function. Successful treatment of depression restores cardiac rate variance and replaces chronic stress related elevated endocrine activity with normal diurnal variation.[23] One of the most striking findings associated with resolution of depression is the abrupt change in insulin needs following electroconvulsive therapy.[24] As the depression lifts, insulin requirements decrease. The likely mechanism is reduction in insulin resistance secondary to increased cortisol levels found in untreated depression.

Amitriptyline (Elavil) is used by many internists to treat symptoms related to both ESX and CSX. It is commonly used to treat the pain of peripheral neuropathy associated with diabetes and ESX, as well as the chest pain in CSX. Amitriptyline, however, is a problematic antidepressant to choose for either condition. Amitriptyline's side-effect profile is exactly what the doctor should not order for peripheral neuropathy in diabetes. It is a powerful alpha-blocker with anticholingeric and antihistaminic properties. The alpha blockade amplifies the orthostasis found in sympathetic neuropathy. The anticholingeric impact increases gastroparesis found in some diabetics. The antihistaminic effect often times produces severe weight gain that amplifies the insulin resistance associated with ESX. These side effects outweigh any potential benefits.

Amitriptyline is commonly used to manage the chest pain of CSX. Like all tricyclics, amitriptyline is a potent class I antiarrhythmic.[25] Its anticholingeric action drives up heart rate. Regularization of heart rhythm through its class I action and rate increase are undesirable outcomes for patients with CSX who may have underlying heart disease and are at greater risk for ventricular tachycardia. Furthermore, the weight gain is also undesirable in this population. Is the pain of ESX and CSX, for which amitriptyline is prescribed, an epiphenomenon of underlying depression? If so, serotonin reuptake inhibitors (SRIs) and other newer antidepressants offer superior treatment choices. SRIs with the possible exception of citalopram (Celexa) have no effect on cardiac electrical activity; namely no Q-T interval increase with associated rate regularization.[26] In addition, SRIs have been shown to reduce the platelet activation found in patients having coronary artery disease and depression.[27] The ENRICHD study sponsored by the N.I.H. is examining whether treating depression post-M.I. with sertraline (Zoloft) and cognitive behavior therapy reduces morbidity and mortality post-M.I.[28]

SRI's also have few autonomic side effects. Thus they do not amplify autonomic neuropathy often found in ESX.

It is apparent that depression is a co-morbid medical condition which demonstrably impacts both Syndromes X through amplification of pathophysiology and regularization of normal physiologic system variance. This effect is undoubtedly true with many other medical conditions. The impact of depression on comorbid illnesses,however, extends to behavioral aspects of the disorder. Noncompliance with treatment regimens, self-neglect, and sleep and appetite disturbance are highly correlated with depression as are smoking and alcohol abuse. Clearly, failure to diagnose and treat depression as a comorbid illness in these and other conditions will adversely impact outcome.

The term depression, as used in this article, means clinical depression described in the American Psychiatric Association Diagnostic and Statistical Manual, edition IV and not grief over acute loss or the blues.[29] Clinical depression has the following features:

Five or more of the following symptoms over the same two-week period: depressed mood; loss of pleasure, anhedonia; decrease or increase in appetite; insomnia or hypersomnia; psychomotor agitation or retardation; fatigue; guilt; impaired concentration; recurrent thoughts of death. Either depressed mood or anhedonia must be in this list.

While this paper has emphasized the role of depression as a comorbid condition, it is also the case that recurrent clinical depression (three or more episodes) is a chronic medical condition itself, like hypertension or diabetes mellitus. As is true in these two latter conditions, there is compelling evidence that ongoing pharmacologic treatment ameliorates the course of chronic depression.[30]

For this treatment to occur depression must be recognized and treated with adequate dosing over sufficient periods of time. This last sentence is obvious, yet misdiagnosis and inadequate treatment remain major obstacles in general medical practice. Managed care based time pressures forcing visits averaging ten minutes in length reduce the likelihood of detection and treatment of depression.

ESX and CSX demonstrate the impact of major depression as a comorbid state. The amplification of pathologic processes and regularization of cardiovascular and endocrine function have devastating consequences for patients. These consequences extend beyond Syndromes X into many illnesses.

Clearer appreciation of clinical depression as a comorbid medical illness, with Cardiac and Endocrine Syndromes X as examples, may improve detection and treatment of depression found across the medical disease spectrum.

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Herbal Medicines with Psychiatric Indications: A Review for Practitioners

JOHN W. GOETHE, M.D. AND ANN L. PRICE, M.D.

ABSTRACT—The use of herbal medicines remains controversial despite their wide use by consumers. By U.S. standards few of these products have been sufficiently evaluated in scientific studies to determine with certainty their efficacy and safety. The authors review the herbal medicines with reputed psychiatric indications and discuss the potential adverse events with which physicians should be familiar. Whatever their potential benefits, some of these herbal products have potentially serious side effects, and many can interact with prescription medications. Patients frequently do not tell their physicians about their use of alternative medicines, and practitioners must ask specifically about products patients may be taking for health promotion and disease prevention as well as for the treatment of the presenting complaint.

Introduction

THE use of herbal and other alternative medicines continues to be controversial among United States physicians. This review 1) summarizes recent literature documenting the popularity of herbal products, 2) presents the reputed indications and potential problems associated with herbal medicines commonly used for psychiatric indications, and 3) gives recommendations for assessing patients who may be using alternative medicines. This review is limited to those herbals mentioned in multiple sources as having psychiatric indications. It does not include vitamins and other nutritional supplements, the consequences of excessive use of various "natural" substances, such as vitamin A toxicity, caffeineism, and mental status changes secondary to steroids, or herbs that are widely known as drugs of abuse, such as cocaine and marijuana.

Published studies report that 20% to 40% of the general U.S. population use herbal and other alternative medicines.[1,2] In a 1993 study, one in five patients taking a prescribed drug was also taking an alternative medicine.[1] These studies found that patients in all educational, socioeconomic, age, and racial groups purchase these products, that they are most commonly used for chronic conditions, and that in most cases the primary care physician does not know that the patient is using an alternative medicine. Among the seven most frequently cited health problems for which alternative therapies were used, two were psychiatric (anxiety and addiction in 31% and 25% of respondents, respectively), and two others (chronic fatigue syndrome and headaches) can be associated with, secondary to, or present as psychiatric disorders.

Herbal medicines have been widely used for centuries, but their potential adverse effects often are overlooked. Many people assume that herbs are safe. Most U.S. physicians have received no formal training in herbal medicine and if unfamiliar with a given product may fail to recognize its side effects or the consequences of its interaction with a prescribed drug. A further complication is that patients may not spontaneously report their use of these products and may not acknowledge it even if asked directly. Another potential problem is that an herb's effects, therapeutic or adverse, can vary from one occasion to another because most of these products are sold in a variety of preparations, combinations, and dosages. This

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JOHN W. GOETHE, M.D., Burlingame Center for Psychiatric Research and Education, The Institute of Living, Hartford, Associate Clinical Professor of Psychiatry, Yale University School of Medicine and University of Connecticut School of Medicine; ANN L. PRICE, M.D., Private Practice, West Hartford, Associate Clinical Professor of Psychiatry, New York Medical College, New York.

lack of standardization and the limited understanding of the mechanisms of action and pharmacokinetics of these drugs can complicate diagnostic and treatment decisions. Even when there is no side effect or interaction of concern, taking herbal medicines may prevent correct and timely diagnosis and thereby delay effective treatment. By contemporary Western scientific standards, the data supporting the efficacy of herbal medicines are limited, and their potential side effects and interactions incompletely understood.

While these cautions apply to all alternative medicines, those intended to alter mental or emotional functioning may be of particular concern. The herbal preparation may not be regarded by the patient as a medicine, and in some cases it may be taken to enhance capacity rather than to treat illness. Patients may also be reticent to report use of a product if they think they will be criticized or told to stop, as might be the case with herbals intended to decrease appetite, promote weight loss, or enhance sexual performance. Some patients may not readily acknowledge depression or other mental symptoms, and physicians may be less inclined to ask specific questions about substances taken to counter dysphoria or other psychiatric problems not part of the presenting complaint. Questions about products used to enhance mood, memory, or other mental function are not routinely asked, especially if the patient is not taking a prescribed medication and has no neuropsychiatric complaints of which the practitioner is aware. While no research has directly addressed how and to what extent physicians ask about patients' use of herbal medicines, a number of studies have shown that psychiatric disorders are both underrecognized and undertreated by nonpsychiatrists, in part because of limited attention to the mental status and to complaints related to the psyche.[3–9]

Indications and Potential Complications

The classification system developed by the NIH Center for Complementary and Alternative Medicine (NCCAM) lists six broad categories of treatments including the "biologically-based therapies" that utilize herbal products (plant-derived preparations) and nutrients (orthomolecular medicine).[10] Table 1 lists the 15 herbal products most frequently cited as having a psychiatric indication, and each is discussed below. For most of these agents there is insufficient data to establish efficacy or a definitive list of adverse effects and drug-drug interactions (Table 2). Many published reports are largely anecdotal, and the pharmacokinetics, mechanisms of action, and in some cases even the active ingredient of these substances are not completely understood.

St. John's Wort has been known since the time of Hippocrates. It is used to treat depression and is perhaps the most rigorously researched of the alternative medicines. A number of studies, most of which were conducted in Germany, support its efficacy as an antidepressant, but recent reviews raise questions about the adequacy of this research.[11,12] There is little data to suggest that St. John's Wort is effective in severe depression, and its use could delay initiation of a more effective treatment. A recent report suggests that this herb can precipitate a manic episode in bipolar patients, a potential problem with FDA-approved antidepressants as well.[13] In addition, there have

Table 1.—Herbal Medicines with Psychiatric Indications

Herbal Medicine	**Indication**
St. John's Wort *(Hypericum perforatum)*	Depression
Ginkgo *(Ginkgo biloba)*	Memory enhancer
Melatonin	Insomnia, regulation of the sleep-wake cycle
Evening Primrose *(Oenothera blennis)*	Sedation
Passionflower *(Passiflora incranata)*	Sedation, anxiety
Scullcap *(Scutellaria laterifolia labiatae)*	Sedation
Valerian *(Valeriana officinalis)*	Insomnia
Kava *(Piper methysticum)*	Anxiety, sedation
German Chamomile *(Matricaria recutita)*	Anxiety, insomnia
Lemon Balm *(Melissa officinalis)*	Anxiety
Black Cohosh *(Cimicifuga racemosa)*	Anxiety and dysphoria associated with menopause
Hops	Sedation
Ginseng (*Panax ginseng*, and others)	Tonic to improve endurance and quality of life.
Ma-Huang *(Ephedra sinica)*	Appetite suppressant
Yohimbe *(Pausinystalia yohimbe)*	Erectile dysfunction

Table 2.—Examples of Herbal and Prescription Drug Interactions

Herbal Medications	**Prescription Drug**
St. John's Wort *(Hypericum perforatum)*	Indinavir (protease inhibitor), SSRI antidepressants
Ginkgo *(Ginkgo biloba)*	Anticoagulants (including aspirin)
Evening Primrose *(Oenothera blennis)*	Antipsychotics, beta blockers
Valerian *(Valeriana officinalis)*	Other sedating drugs
Kava *(Piper methysticum)*	Other sedating drugs
Ginseng (*Panax ginseng*, and others)	MAO inhibitors, stimulants, haloperidol
Ma-Huang *(Ephedra sinica)*	Antidepressants

been several recently reported interactions involving St. John's Wort, including with the protease inhibitor indinavir (suggesting caution in the use of this herb with any medication for HIV) and with the SSRI antidepressants (and by extension perhaps all antidepressants).[14,15]

Gingko (Gingko biloba) is most frequently used to enhance memory and treat other symptoms of Alzheimer's disease. As recently reviewed by Fugh-Berman et al, there is considerable support for its efficacy in dementia, although the improvements in functioning compared to controls are modest.[16] Gingko is sometimes used to treat depression and impotence.[17] Because gingko can cause bleeding, it probably should not be used in patients taking anticoagulants or aspirin (whether used for anticoagulation or other purposes). Side effects are not common but include headache and gastrointestinal upset, either of which could be misattributed to a prescribed antidepressant.

Melatonin is used to treat insomnia and regulate the sleep-wake cycle and has been touted as a possible remedy for jet lag.[18–21] Among potential side effects are excessive sleepiness and confusion, headache, and diminished sexual drive in males.[18.19] Melatonin should be used with caution, if at all, in patients with mental illnesses, and in patients taking steroids. It is also contraindicated in a number of medical disorders, especially autoimmune diseases.[20]

Evening Primrose (Oenothera blennis) use is primarily used as a sedative. Wong et al have noted the occasional reports about the benefits of this herb in schizophrenia, childhood hyperactivity, and dementia, presumably because of the fatty acids in evening primrose and their link to the treatment of these disorders.[17] While not likely to be common, such use is of concern because this herb can exacerbate mania and epilepsy and can interact adversely with antipsychotics and beta blockers as well as with some nonpsychiatric medications.[22–24] Despite these concerns evening primrose is generally regarded as safe.[25]

Passionflower (Passiflora incarnata) is used as a sedative and as an anxiolytic. No adverse reactions have been reported and there is little to suggest significant interactions with other substances. However, it is most commonly used in combination with other herbs, and a patient using passionflower, especially on a regular basis, may be consuming significant quantities of other herbals of potential concern.

Skullcap (Scutellaria laterifolia labiatae) is used as a sedative but may be consumed for a variety of purposes, including any perceived "nervous condition" or dysphoric state.

Valerian (Valeriana officinalis) is most commonly used as a soporific but it may be used by patients seeking relief from anxiety or depression, a potential problem since this herb is a depressant. When used short-term, as is usually recommended, there is little to indicate that there are side effects or drug interactions of concern, although its sedative effects may be additive when used in combination with sedating prescription medications. Long-term use is occasionally associated with headache, restlessness, decreased sleep, mydriasis, and cardiac dysfunction, and there is a report of dystonia and hepatoxicity after overdose.[26,27]

Kava (Piper methysticum) is reputed to be useful as an anxiolytic and sedative, and several German studies, recently reviewed by Fugh-Berman, found it equal in efficacy to benzodiazepines.[16] Little is known about the long-term use of this herb, including its effects on sleep architecture (ie, as with benzodiazepines, short-term benefits may be outweighed by the complications of chronic administration) and its usefulness in disorders associated with persistent anxiety. Kava should not be used in depressed patients, in Parkinson's disease, or in combination with other sedating drugs.[28]

German Chamomile (Matricaria recutila) is indicated for insomnia and anxiety but has a wide variety of uses in general medicine as well. There is little evidence to suggest side effects or drug-drug interactions of concern.

Lemon balm (Melissa officinalis) is used as an anxiolytic. There appear to be no common side effects, but it may interact with thyroid medications, a potential problem in treating patients with thyroid disease and when augmenting antidepressants with thyroid supplement.[29–31]

Black Cohosh (Cimicifuga racemosa) is described as useful for anxiety, dysphoria, and other symptoms associated with menopause.[32] However, dysphoria is among its side effects, as are headaches and gastric upset, potentially complicating treatment and the differential diagnosis. This herb probably should not be used in patients taking other hormonal therapies.[32]

Hops is used as a sedative, often in combination with other herbs.[33] It has not been well studied as a single agent. It can disrupt the menstrual cycle and should be avoided in depressed patients.[32,33]

Ginseng (Panax ginseng, and others) is often taken as a daily tonic intended to improve overall endurance and quality of life. It is also used to treat stress and fatigue. Insomnia is a common side effect as are anxiety, restlessness, euphoria, and hypertension.[34,35] It should be used only with caution in patients on MAO inhibitors, stimulants, and haloperidol, and, by extension, in any patient on psychotropic medications.[36,37]

Ma-Huang (Ephedra sinica) is a CNS stimulant used as an appetite suppressant. Contraindications and side effects are those associated with other stimulants and can include death.[38] It should be used cautiously, if at all, in psychiatric patients, especially those taking prescription antidepressants.

Yohimbe (Pausinystalia yohimbe) is said to have aphrodisiac properties and is used in the treatment of erectile dysfunction.[39,40] It is well established that this herb can produce psychiatric symptoms. It is used in laboratory studies of anxiety to provoke symptoms and should not be taken by patients with a pre-existing diagnosis of panic disorder.[42,43] There are also reports that yohimbe can produce psychotic symptoms, manic episodes, and seizures.[33,44–46]

Conclusions and Recommendations

Medical practice is increasingly grounded in evidence-based guidelines, and in this environment it is unlikely that herbal medicines will be rapidly accepted by physicians in this country. Further research is clearly needed to resolve the controversies about the role of herbal preparations in medicine. Given their wide use, however, it is imperative that physicians specifically inquire about what herbal medicines patients may be consuming. Doctors cannot depend upon patients to report such use independently or to disclose everything they are taking in response to general questions. A thorough assessment of a patient's mental status and psychosocial functioning may be impractical for most nonpsychiatric physicians. However, practitioners can ask if patients are taking anything to enhance functioning or to remedy a problem in seven specific areas: "nerves," depression or mood, anxiety, sleep, memory/attention/concentration, appetite/weight control, and sexual pleasure/performance. For child and adolescent patients, parents should be asked if the patient is taking alternative medicines for any of the above reasons, for hyperactivity, or for academic or behavior problems.

There are several sources of up-to-date information about herbal medicines physicians can consult. Hospital pharmacies and drug information services have begun to maintain databases about these products. In 1993 the FDA established the Office of Special Nutritionals and the Special Nutritionals Adverse Event Monitoring System (SN/EMS).10 This agency maintains a web site: http:\\vm.cfsan.fda.gov\~dms\ aems.html. Another useful web site is the National Center for Complimentary and Alternative Medicine: http://nccam.nih.gov/nccam.

Future studies may establish the effectiveness of the herbal products discussed above and lead to their routine use by physicians. To date, however, there is no psychiatric equivalent of, for example, the Madagascar rosy periwinkle (Catharanthus roseus) from which vencristine and vinblastine are made, or the foxglove plant, the leaves of which were the original source of digitalis.

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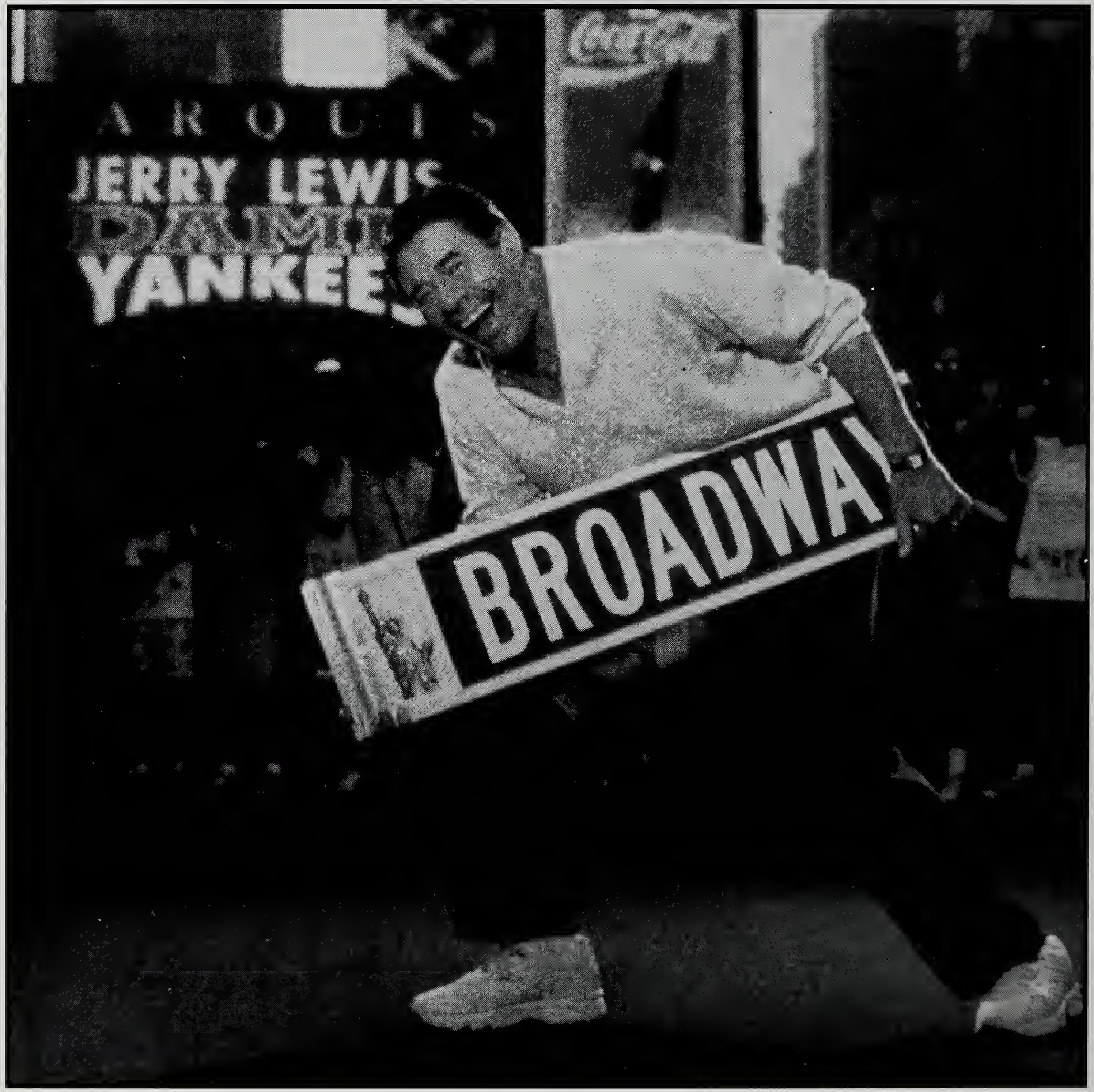
DREAMS COME TRUE



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Editorial

Take a Vacation—It will Recharge Your Batteries

NELSON C. WALKER II, M.D.

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UP at 6 A.M., depending on the hospital census or meetings, leave home between 6:45 and 7:15, and another day of family practice has begun.

The next 12 hours are spent trying to keep up with patients, phone calls, paper work, computers, and whatever else comes my way as a busy Family Physician doing the job I love. The morning is usually spent with patients scheduled from 8:00 A.M., until noon. On hospital rounding days I travel to nursing homes, two hospitals, and do an occasional house call. I can not count the number of times I check my watch to see if I am on time. Lunch is usually between patient phone calls, or in the car driving between the hospital and the office, or at a meeting. The afternoon office hours begin at 1:00 P.M. Patients are scheduled until 4:45 P.M. and the hope is that I am finished seeing patients by 5:00 P.M., except for the one night a week of evening hours. Although our office is completely computerized including all medical records utilizing the magnificent efficiency of the Pen Chart System, practice life still seems to be a constant game of catch-up and beat-the-clock.

I try to take at least two vacations a year. The results are astounding. When I return, my patients tell me how rested I look and the staff comments about the smile on my face. The practice of medicine is fun again.

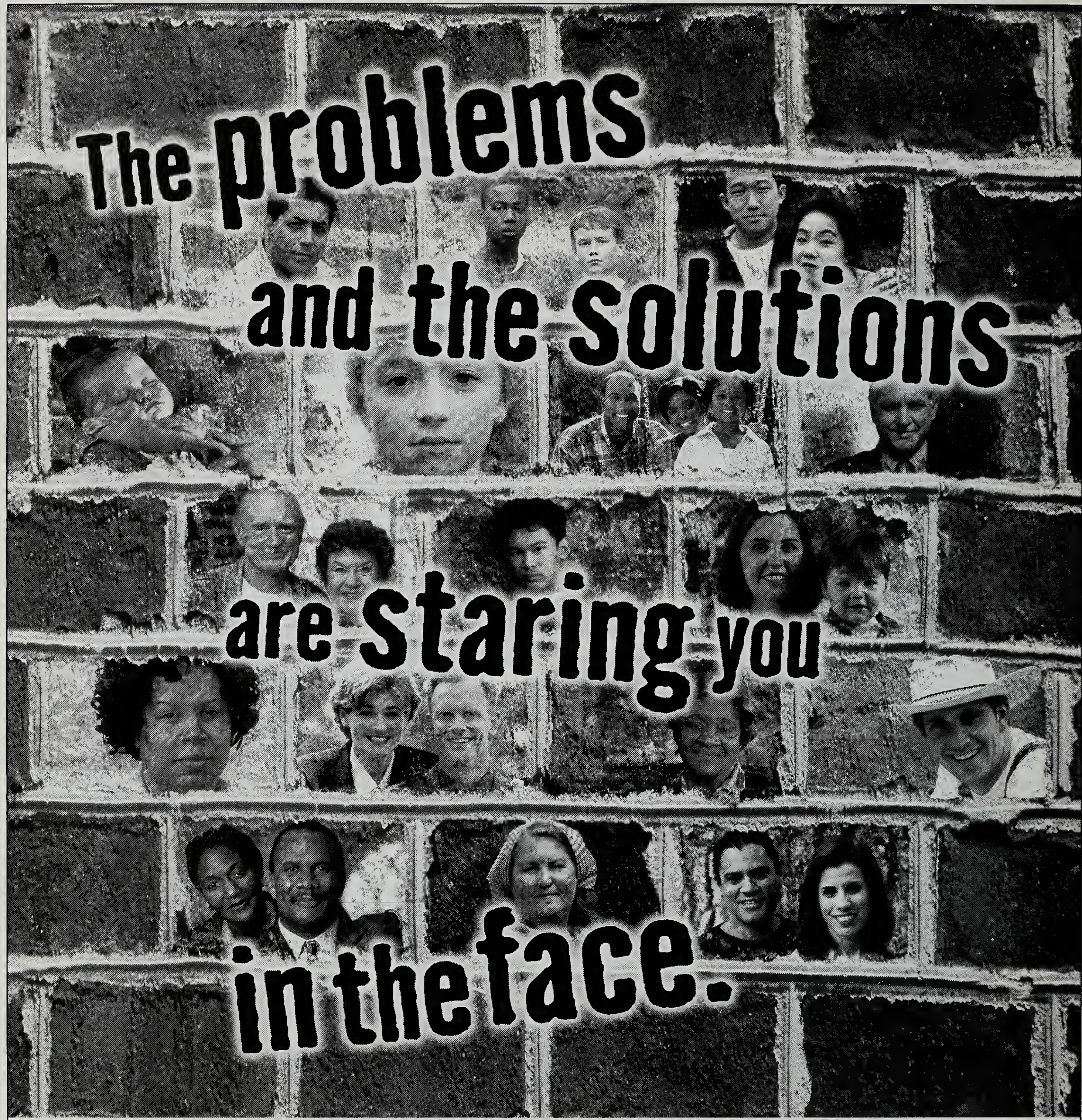
After the patients leave there are the phone calls that begin to back up and the stacks of paper that come to the office which need my review before scanning into the computer. I always aim to be home by 7:00 P.M., but never seem to make it on Mondays. The rest of the week will vary. I do have access to all my records at home via computer, so even if I have not finished I can still leave the office to be with the family and log on later to complete the work. Evenings are usually spent with an hour of exercise sometime after dinner (when I was younger it was in the morning—up at 5:30 A.M.). As I have hit the 50s I am too tired to get much else done.

There are variations to this routine, such as family activities, sporting events, or various other things that come along in life, including interrupted sleep from on-call nights. I do not schedule patients on Wednesdays, but it is often booked with a meeting, used for catch-up, or doing other things such as writing this editorial. There is an occasional middle-of-the-week day of skiing or sailing, but this does not happen as often as I would like. Weekends, for the most part, are free except for every fourth or fifth on-call. This is my routine—except for vacation time … and that brings me to the point of this editorial.

Vacation time is special. No wake-up alarm! I get out of bed when my body tells me it is okay. The days are mine to rest, relax, and play. There is no schedule to keep. My watch may get lost and I have even been known not to wear it. It takes two to three days to wind down, to feel rested again. The computer, if I even look at one, is no longer a symbol of work but rather something that may be fun to use as a toy. Reading is truly for pleasure, even if it is a medical subject.

By day three or four I am thinking, "this is the Life." I have lost track of what day of the week it is, and I wish it did not have to end.

Then it happens! I start thinking medicine. I remember the practice and think of patients and, surprisingly, I am ready to go back to work. The best vacations last for one or two weeks with the last day used to catch-up with the work that accumulated while away. It takes that long to unwind and then recharge. I try to take at least two vacations a year. The results are astounding. When I return, my patients tell me how rested I look and the staff comment about the smile on my face. The practice of medicine is fun again, at least for a few days, until the reality of the routine sets in. It is refreshing to think where I was and what I did when I was off. When those memories become cloudy, I dream of the next planned vacation which is rarely more than four or five months away. When I come back from vacation, I realize how lucky I really am to be a physician, doing a job I really like while supporting my family comfortably. It is important to take the time to put it all in perspective.



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Commentaries

Drugs and A.D.H.D.

The news story (New Campus High; Illicit Prescription Drugs; *New York Times* 24 March 2000) concerning the death of a student at Trinity College as a result of overdosing on a lethal combination of illicit prescription drugs is disturbing. This is especially so when coupled with current reports concerning the increasing number of school children who are so dysfunctional that stimulant drugs such as Ritalin and antidepressants (SSRIs) are being more widely used than ever before. Even more distressing is the fact that data regarding the use of these agents by children over varying lengths of time has not been accumulated, studied, or reported. This was discussed in a recent report by the National Institutes of Health at a high-level conference devoted to the subject of drug therapy for attention-deficit/hyperactivity disorder (A.D.H.D.) The *long-term* side effects of these medications on the central nervous system have not been studied. Variations in diagnostic assessments of these disturbed children by physicians with varying specialty backgrounds— family practice, pediatrics, neurology, psychiatry—make for inconsistent evaluation and indications for treatment.

The educational system may need to consider seriously two issues:

- The first is to develop a systematized approach to the dysfunctional child. This approach should include input through a standardized conference structure including family members, representatives of the educational system working with the child under discussion—teachers. administrators, the school nursing staff—plus the physician and/or psychologist. A rational treatment and follow-up strategy could then be agreed upon, including psychosocial therapy and/or pharmacological treatment with drugs of the amphetamine class that are effective in treating attention-deficit/hyperactivity disorder (A.D.H.D.), ie, Ritalin, Adderall. The recommendations following conferences should be recorded and kept with the student's files for future reference. It is important that those dealing with these issues be fully informed of the actions and possible side effects, both long- and short-term, of the chemicals used in the treatment of this condition.
- Adderall and Ritalin are drugs of the amphetamine class. They are stimulants. The illicit amphetamine-like drugs available on the "street" include cocaine, methamphetamine (crystal meth or ice), and a number of other amphetamine derivatives such as MDA, TMA, and MDMA (Ecstasy.) Ephedrine is available as the prescription drugs Marax and Rynatuss which are used in the treatment of bronchospasm.

The Physicians' Desk Reference,[1] in the section describing Adderall, in bold block letters states as follows:

"Amphetamines have a high potential for abuse.... Administration of amphetamines for prolonged periods of time ... may lead to drug dependence."

Similarly, in respect to Ritalin, there is a separate paragraph dealing with drug dependence particularly affecting those with a prior history of emotional instability and alcoholism. It is also stated; "Long-term effects in children have not been well established."[2] It is recommended that, in children six years of age and older, that Ritalin be started in small doses of 5 to 10 milligrams twice daily with gradual weekly increments to reach a maximum dose of 60 milligrams per day. If behavioral improvement is not observed after one month, the drugs should be discontinued. It is recommended that treatment should be periodically discontinued to assess the child's condition. Paradoxically, this recommendation does not take into account the possibility of stimulant dependence in the youngster being treated and the likelihood of dysphoria due to withdrawal and craving. Additionally, it is stated that "drug treatment need not be indefinite and usually may be discontinued postpuberty." In view of the fact that there are little data regarding long-term follow-up of children who have been or who are taking these agents, such a conclusion at this point would appear to be unjustified.

The decision to carry out drug therapy is an important one and must be made with knowledge and understanding of the effects of these psychoactive substances on the brain. Recent advances in the science of neurochemistry indicate that most of the drugs that effect the central nervous system, including legally available alcohol and tobacco, act on the transmitter system, the "wiring," between brain cells sensitive to these agents. These actions are chiefly reinforcing, that is they increase the intensity of pleasurable sensations produced by the "firing" of these particular nerve cells. Stimulant drugs, including prescribed amphetamines and the illicit stimulants, produce a "high," a sense of well-being, confidence, and strength. They banish fatigue and hunger. But there is a downside and a cost to the repeated consumption of these drugs.

The "firing" of nerve cells requires chemicals to carry the message from one cell to another The actions of stimulants on these messenger chemicals and where they attach or "dock" on the cell change the "dock" or interfere with the messenger chemicals themselves. They block the re-uptake of the messenger chemical dopamine so that this important pleasure producer winds up being gradually depleted. When these stimulants are stopped, fatigue, depression, irritability, and craving develops. This is called a "crash." Craving for drugs of the amphetamine class is intense and accounts for frequent relapse to drug use after treatment and fervent attempts to stay abstinent. Recidivism to cocaine use occurs in a high percentage of users of this drug, witness the tragic recurrent relapse history of Darryl Strawberry.

- The unfortunate fatal incident at Trinity College underlines the fact that illegally acquired prescription drugs like Ritalin, dextroamphetamine sulfate (Dexedrine), and ephedrine are being used on college campuses in combination with sedatives, opiates such as Percocet, Percodan, and Vicodine, and antianxiety agents of the benzodiazepine class, ie, Valium, Zanax. The increasing use of a wide variety of potentially lethal psychoactive agents by our young people needs to be addressed in respect to those factors which are promoting such self-destructive behavior and what has to be done by way of prevention.

It is easy to place the blame on modern day "lack of family values," the broken and single parent home, the ghetto, secular materialism, poverty, hopelessness, and the absence of equal opportunity. But this does not explain why the wealthy college kid dies as a result of binge drinking and overdosing on drugs obtained on the street or through a pharmaceutical provider. The Internet, by the way, may become a source of easily acquired drugs of this type. There must be a fundamental lack of understanding of the facts regarding the brain damage that can occur acutely and chronically from the use of these kinds of chemicals. Perhaps the educational system should reevaluate the drug/alcohol/nicotine curriculum and consider a more pragmatic realistic approach to include neurochemistry. Since data in respect to the DARE program have failed to support its efficacy, it would be justifiable to seek other educational alternatives. Members of the American Society of Addiction Medicine and others working in the chemical dependency field might be willing and effective consultants in respect to the teaching of the disease aspects of drug and alcohol issues. The recovering community might also be of significant help in this matter by being willing to share their personal experiences.

In summary, it is necessary to understand fully treatment indications and risks coincident with stimulant therapy as well as to reevaluate the role of drug/alcohol education so that users can be fully aware of the risks associated with the use of mind altering chemicals. It is not enough to "Just Say No." It is definitely more rational to "Just Say Know."[3]

Henry N. Blansfield, M.D.
Danbury
The author is a member of the American Society of Addiction Medicine and Chairman of A Better Way.

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50 Years Ago

From *The Connecticut State Medical Journal*

June 1950

The Rule of Reason in Psychiatry

C. CHARLES BURLINGAME, M.D., *Hartford*

The Author. *President and Psychiatrist-in-Chief, The Institute of Living, Hartford, Connecticut*

YOU may well ask me, "What is psychiatry?" Perhaps I can make it clearer to you by first telling you what psychiatry *is not.*

Psychiatry is not a branch of the moving picture industry and ancillary to its box office. Psychiatry is not a religious sect, in which people believe or do not believe. Psychiatry is not a universal specialty, which can solve the affairs of state, the housing problem, the problem of race prejudice—which can wind up the universe every night at midnight and be sure everything is running smoothly. Psychiatry is not a publisher's delight. Psychiatry is not even a line officer's means of separating men from the armed services. Psychiatry is not a propaganda machine. Nor is psychiatry a lucrative way of entertaining suburban ladies. No, psychiatry is not any of these, although all these things may have been done under pseudo-psychiatric banners, with great flourishes and an atmosphere of propaganda.

Psychiatry *is* just a plain, hard-headed branch of medicine, which deals with the psychological side of disease. In Britain the term "psychiatry" is less commonly used than "psychological medicine," and their society is called "The Royal Medico-Psychological Association." This appellation for their society is a good definition of what psychiatry is or should be.

True, psychiatry's knowledge should be made available to many ancillary fields in which it may be of service, just as medicine in general contributes to but does not run the food industry. Psychiatry's ancillary responsibility is very broad, but I do not believe it is any broader than that of any other branch of medicine, although it is more nebulous.

Psychiatry, I believe, is primarily responsible for the treatment, care, and cure if possible, of the individual patient, and for preventing the individual from becoming a patient. I am much distressed at concepts of psychiatry which tend to distract the mass of psychiatrists from this job of healing the sick; if we do not do this job, nobody will do it.

Again, you may well ask me, "Who is a psychiatrist?" A psychiatrist is a doctor of medicine. He is an M.D. who knows his general medicine well, who knows what he does not know about general medicine; who knows enough about neurology to know what he doesn't know, and preferably more.

A psychiatrist is an M.D. who knows the psychological symptoms which may be a manifestation of somatic disease.

A psychiatrist is an M.D. who also knows the somatic symptoms which may be a manifestation of emotional trauma.

A psychiatrist is an M.D. who knows how to use or get all of good medicine which is common to all of you for his patients.

A psychiatrist is an M.D. who uses a large battery of physical therapies developed for and by his specialty, such as: (1) physiotherapy; (2) endocrine substances, such as hormones, epinephrine, etc.; (3) shock therapy, whether insulin coma, metrazol or electroshock; (4) psychosurgery, whether topectomy, transorbital lobotomy, cortical undercutting, the new and amazingly accurate thalamotomy, or any of the other forms of lobotomy; (5) certain of

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Reprinted from the *Connecticut State Medical Journal*, June 1950.

Presented at tbe American Academy of General Practice, St. Louis, February 20, 1950 the chemotherapies; (6) the antibiotics; (7) fever therapy; (8) and multiple other new and increasing physical aids in mental illness. All of these and many more physical therapies are part and parcel of modern psychiatry.

A psychiatrist is an M.D. who is also a sociologist. If he does not understand the milieu in which the human fish has been swimming and has failed, he cannot possibly assume the responsibility for preparing that human fish to swim *successfully* in that milieu.

A psychiatrist is an M.D. who must be somewhat of an educator. He must be capable of teaching his patient to understand himself and to function in the society in which he is cast.

A psychiatrist is an M.D. who must also be a vocational counselor of sorts. The real purpose of psychiatric treatment is to return the patient to society. The human animal does not survive or prosper under "Loafer's Delight;" he needs to feel and be necessary in the scheme of things. It is therefor our job to find out what the person is capable of doing, why he failed if he did, and wisely guide him into a successful career.

Yes, a psychiatrist as an M.D. must be all of these things. We in psychiatry must be constantly on our guard against failing to use one or another of these phases of existing knowledge.

We frequently encounter cases, for instance, in which psychoneurotic or psychotic symptoms are only masking physical diseases. There are on record numerous cases in which persons previously diagnosed as psychoneurosis cases, for example, were found to have brain tumors. I have also seen persons with marked psychotic symptoms masking pellagra; the apparent psychosis cleared up completely with the cure of the pellagra. What appears to be an anxiety neurosis may be really decompensation of the heart or part of an atypical anginal syndrome. Thus it is not good medicine to treat any disease solely by psychotherapy, without first investigating the possibility of somatic disease.

And the converse is true. Just as we in psychiatry must be on the alert for somatic implications in our patients, so you men in general medicine and the so-called physical medical specialties must be alert for psychological implications in your relations with patients. I recall a few examples of cases in which some of you gentlemen possibly "missed the boat"— cases which came to me after the damage had been done, but which possibly could have avoided the necessity of profound psychiatric attention.

Can it be that some gynecologists ignore or do not realize the seriousness of the psychological trauma inflicted in pan-hysterectomies? Women suffer from these operations, not only from the loss of the organs but also from the loss of what they consider a part of their personalities. Unless the surgeon realizes this and helps the patient to reorganize her emotional responses, much harm may be done.

I do not wish to infer that gynecologists are more frequently guilty or careless in this matter than are practitioners in other fields; since I have started with examples from that specialty, however, there are one or two more involving the gynecologist which may serve to illustrate my point. Discussing with a patient the possibility of malignancy, and leaving her "up in the air," can prove very upsetting, even to the point of inducing a psychosis. In one case which was brought to my attention recently, the gynecologist had said, "It may be malignant, it may be a benign tumor. Come back in six months." Did he stop to consider the effect of his statement on the emotions of the patient, and the effect of that six month waiting period?

There was still another gynecologist who subscribed to the "straight from the shoulder technique." He made a house call on a patient one day, told her bluntly that she had cancer of the uterus and that there was general metastasis. He further intoned that she would probably live no more than about three months. Then, being a very busy man, he took his departure, leaving his patient distraught and completely unnerved. Her husband returned just in time to prevent disaster.

So much for gynecology. Sometimes equally serious errors, from the psychiatric point of view, may be made in dealing with cardiac cases. Hypertension, in particular, is increased dangerously by a "scaring to death" technique. A doctor friend of mine was once treated in this manner. His physician informed him that he must cease all activity at once and, if he took things very, very easily for a long time, he might—not would, but might—live for five years. The doctor-patient became afraid to move or even to think if problems were involved; as time went on, his hypertension increased to the danger point even though he was literally obeying orders. But he still had a mind. When I saw him, I said, "Relax, old man. You might as well be dead as practice at it! " He did relax, and lived for fourteen years, because he came to realize that he was simply being asked to be his age and live a normal, well balanced life.

Then there was the man who was slowly going blind, whose doctor told him there was nothing he could do for him and he might as well get used to being blind. A program of training to meet his future restored him after a suicidal attempt and complete mental collapse.

In the general hospital, treatment given a patient in preparation for surgery is often frightening and impersonal; avoidance of this atmosphere mitigates shock. Let us study all of our hospitals—general, and special including psychiatric—to the end that the hospitals may eliminate the emotional traumata and anxieties which make recovery slower or less likely.

Some physicians of today, in the effort to achieve great efficiency, have turned their offices into production lines, where the patient is handed along an assembly line of technicians, nurses, and assistants. This is fine for automobiles, but patients are people! For one of numerous indictments of the profession in this regard, see "My New York Family Doctor" by Jane Whitbread, in *Good Housekeeping,* December, 1949.

We must all keep in mind that, in the light of today's knowledge, we can no longer divide disease into "mental" and "physical." There is only disease. To be sure we are thinking together in this respect, will you imagine with me a giant rectangle in which we are to incorporate all of disease, with each disease or trauma represented by a vertical segment. From the lower left-hand corner to the upper right-hand corner we will draw a line; above the line we will consider the field of the psyche, and below the line the realm of the soma. Let us now place some diseases and traumata within the rectangle in positions to indicate the relative importance of the psychological and the somatic elements in their presenting symptoms. For instance, we might place a fracture at the extreme right, where its symptoms would be about 90 per cent somatic and 10 per cent above the line in the field of the psyche. I do not believe anyone will dispute the presence of that much psychological trauma from a fracture. A carbuncle might be placed a bit farther in, with the greater part of its symptoms in the field of the soma but a substantial component in the psyche also.

Not so many years ago, we might with clear conscience have placed any number of diseases either entirely above or entirely below the line. General paresis, for example, used to be classed as a mental disease; then the spirochete of syphilis was found in the paretic brain, and today we would have to place paresis in the center of our rectangle, with symptoms about 50 per cent psychological and 50 per cent somatic.

I could continue with a procession of diseases, but I am sure you see by now what I am driving at—that, even as no vertical line can be drawn through the rectangle without passing through both the field of the psyche and that of the soma, neither can we today find any disease which does not affect both fields. We still have a whole basketful of conditions heretofore classified as mental diseases, whose somatic accompaniments we have only begun to identify. But each new discovery is bringing out these somatic components and showing us more clearly that the whole man is affected by each disease and trauma.

I believe that any branch of science might be likened to a great glass cylinder built up from the ground. Into that cylinder are poured enormous quantities of fluid information, hypotheses, isolated facts and detached bits of knowledge. As time goes on, certain of the solid particles in that fluid settle down to the bottom until we have an ever increasing body of solid fact attached to the solid earth. Always there will be muddy fluid on top; there will be some good solid fact suspended in the fluid, but it can be regarded only as hypothesis until it settles down and becomes part of the solid material that is anchored to the solid part of the scientific earth.

Psychiatry is right now blessed with a reasonable amount of solid scientific sediment which has settled down and become attached to other scientific facts. We do not need to apologize for having a lot of hypothetical fluid and fragmentary facts floating around above the scientific material, if we continue to realize ourselves and tell others frankly that these are hypotheses, these are fragmentary facts.

This scientific sediment available to psychiatry is constantly being added to by the research which is going on, both in the pure science laboratories and in those of neurology, psychiatry and psychology.

Within the past year or two there have come announcements of such projects as that carried on by Caspersson and his associates at the Institute for Cell Research of the Medical Nobel Institute at Stockholm, Sweden. By means of an ultra-violet spectrophotometer, these men have observed alterations in the cell protein metabolism as the result of emotional stimuli and traumata. It is at least a strong possibility that, in the failure of some cells to restore themselves normally with rest, we are actually able to *see* mental illness.

Walter Hess, of Switzerland, one of the Nobel prize men in medicine for 1949, has cast new light on the complex functions of the autonomic nervous system and the diencephalon.

Here in the United States, giant strides are being made in understanding the physiological components—I might even go so far as to say the physiological *bases*—of psychosis. You will realize the tremendous significance of the fact that it has been found possible, by controlled laboratory procedures, to *produce psychoses* of various types. This is a long step out of the realm of speculation. As we come to know definitely the conditions under which a certain hormone, for example, will produce an abnormal mental state, we shall be able to help our patients to avoid these conditions and/or to combat the hormone chemically.

Research is going on, also, in the production of psychoses by negative psychotherapy, and consequent endocrine stimulation. Research, too, is enabling us to determine what type of therapy already known is most effective with which type of psychosis.

In the field of psychosurgery, extensive research on frontal lobe physiology is being carried out. A series of new surgical techniques are being perfected, and the importance and methods of postoperative reeducation are being established. The originator of psychosurgery, Egas Moniz of Portugal, received Nobel prize recognition in 1949.

We are hampered by our lack of knowledge, today, of the disease entities which manifest themselves in psychotic symptoms. We are still forced to use the descriptive diagnosis for most mental illness. When we speak of dementia praecox, catatonic form, we are not speaking of a definite disease entity as we would be in discussing typhoid fever; we are describing a chain of symptoms, or a syndrome.

In olden times, fever was a diagnosis, and the fever was treated. Now out of the fever basket have been taken many different disease entities. Today we no longer treat fever; we treat typhoid, or malaria, or pneumonia. Like fever, epilepsy is not a disease entity, but a symptom. We believe that many of our descriptive diagnoses will eventually bear the same relationship to disease entities as the symptom epilepsy and the symptom fever have come to bear now.

Out of the enormous basket that we call dementia praecox, we will soon be able to lift maybe five, maybe ten, maybe 100 different disease entities. As in the case of general paresis, once we have established a disease entity we find that it cuts right through the whole segment of descriptive diagnosis. Sometimes the early paretic presents a picture of a psychoneurotic, sometimes a manic, sometimes a depressed case, and transitorily even the syndrome which we have come to associate with dementia praecox. I am fully convinced that we, with the assistance of the fine research I have described, are nearing the time when we shall have to depend far less upon description in our diagnoses.

Most, if not all, of the preventive psychiatry of the future as well as the present must be done by the general practitioner and the somatic specialist. You it is who see conditions in their incipient stages, when proper consideration of the emotional factors—or, if you will, proper psychotherapy—may be enough to prevent the development of neurotic or psychotic symptoms and states.

It is encouraging to find medicine once more returning to an interest in the patient as well as in his disease. The old-time family practitioners made up for much of their limited knowledge of modern techniques by a warm and sincere interest in people. With the advent of scientific medicine, we thought we could safely disregard the human angle once we understood and could treat the disease entity. As we all know, this produced an impersonal type of medical approach which may have done harm with many patients.

Psychosomatic medicine, heralded over the twentieth century horizon with pomp and fanfare, is not new at all; even the term, "psychosomatic medicine," was used at the Institute of Living by Amariah Brigham over a century ago, and in 1838 a German journal was published with this phrase in its title. The antiquity of the idea is shown in a number of vulgar expressions, some of which date back thousands of years, such as "intestinal fortitude" which indicates the effect of emotions on the intestinal tract. So now we are back about where we started from, except that today's medical man has a much better knowledge of disease entities and methods of treatment.

We in psychiatry want you to find us humble medical men, anxious to listen as well as contribute to the other branches of medicine. We are embarrassed at the propaganda atmosphere which has been wafted around us and has tended to cloud our hardheaded, sound, practical accomplishments. These accomplishments have attached us irrevocably to medicine, and scientific medicine as irrevocably to the field of psychiatry. No longer can one endure without the other.

The pure science laboratories are tendering us invaluable aid; our own psychiatric laboratories are continuing to probe more deeply into the mass of hypothesis and speculation. These scientific methods are the very backbone of psychiatry. We are humble in the face of the vast unknown stretching out before us, although justly proud of the tremendous accomplishment made in such a comparatively short period of years.

FROM THE EDITOR'S DESK

Do No Harm

Primum non nocere, first do no harm, is a medical axiom handed down to physicians over the centuries since Hippocratic times. It is the ethical principle of nonmaleficence that cautions us, in the application of our medical knowledge and skills to the treatment of disease and suffering, to guard against harming, while helping, our patients. Practitioners of the science and art of medicine soon learn that this principle, strong as it is in guiding them, is not absolute. The standard treatment for a malignancy may be surgical resection, a painful, injurious procedure that is harmful when viewed in isolation, but when viewed in contrast with the potential lethal force of the disease it addresses surgery is recommended as a "harm" worth enduring for the longer term benefit it provides. Sound medical judgment demands that in any medical/surgical intervention the potential benefit is judged to outweigh the harm. It is the coexistence of two ethical tenets, beneficence and nonmaleficence, that should characterize all medical care.

Beneficence and nonmaleficence are not, to this observer, obvious guiding principles in journalism and the media, driven as they are by commercial interests, competition and the profit motive. Under the ostensible and noble rubric of protecting the medical-consuming (and newspaper-purchasing) public from malfeasant doctors, *The Hartford Courant* published an investigative report by two of its staff writers, with front page positioning, on Sunday April 30th and Monday, 1 May 2000. The one-inch high headline on the first day, "DANGEROUS DOCTORS," definitely made that issue a page-turner; next day we were treated to an unabridged list of Connecticut physicians (at least one of whom was deceased) who have been sanctioned by the Connecticut Department of Health for varying violations in the past decade.

Physician readers scanned the list to see if we or our friends and colleagues were named, painted with the same brush as the eight most egregious offenders from across the nation pictured on the front page. Finding a few whom I know and respect, and whose infractions I am somewhat familiar with, I could only wonder whether the harm done to them wasn't vastly out of proportion to the addressed violation from their professional past and out of proportion, too, with the benefit presumed to redound to the health-conscious public by their inclusion in the published list. If public care by the media could be deemed analogous to patient care by the medical profession, with ethical principles in common, then the harm done to those few seems analogous to that of an abdominal-perineal resection performed for a rectal polyp with carcinoma-in-situ at its tip. The disease is, by definition, malignant, and a potential threat to the patient in the future, and is surely cured by the radical operation, but what a cost in suffering and harm.

Harm to one's good name was a subject Shakespeare addressed in Othello, Act III. These lines were passed on to me at an appropriate moment by a revered, now deceased anesthesiology colleague:

> Good name in man and woman, dear my lord,
> Is the immediate jewel of their souls:
> Who steals my purse steals trash; tis something, nothing;
> 'Twas mine, 'tis his, and has been slave to thousands;
> But he that filches from me my good name
> Robs me of that which not enriches him,
> And makes me poor indeed.

Reading these lines, with all their pithy cogency and pertinence to the subject of indiscriminant publication of a list of errant doctors, does not absolve those physicians who were found guilty of major violations of their patients', and the public's, trust; nor does it absolve the rest of us, thus far innocent, who may find ourselves as observant, but silent, participants in the subtle spiral of a colleague's career towards embarrassment or even tragedy. If the late Speaker, Tip O'Neill, was on the mark when he opined that "all of politics is local," then we, in medicine, should adopt an analogous principle— that all of the checks and balances on physician deportment in patient care are local. Colleagues, department chiefs, presidents of ever-larger practice groups are often the first to become aware of the early hints of trouble, with more trouble ahead. It takes courage to intervene early on behalf of a colleague, knowing that he or she, and our friendship, may suffer some transient harm; that harm pales next to future pain and suffering by patients, by doctors under state disciplinary action, and in the media. The polyp, a potential cancer, is removed by polypectomy. *Primum non nocere* (or as little *nocere* as possible).

H. David Crombie, M.D.
Editor

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DATE	LOCATION	TIME	DETAILS
July 10–11	Danbury Hospital	7:00 a.m. – 2:30 p.m.	Doctors' Lounge, 5th Floor West
July 12–14,17	Stamford Hospital	7:00 a.m. – 2:30 p.m.	Medical Staff Lounge
July 18–21	St. Vincent's Med. Center	7:00 a.m. – 2:30 p.m.	Doctors' Lounge, Level 2
July 24–27	Yale New Haven Hospital	7:00 a.m. – 2:30 p.m.	Children's Hosp., MDs' Lounge West Pavilion, Room 106
July 28	CSMS, New Haven	9:00 a.m. – 4:30 p.m.	Council Room
Aug. 1–2	Hospital of St. Raphael	7:00 a.m. – 2:30 p.m.	Physicians' Lounge, Main One
Aug. 3–4	St. Mary's Hospital	7:00 a.m. – 2:30 p.m.	Conference Center, Room G-01
Aug. 7–10	Hartford Hospital	7:00 a.m. – 2:30 p.m.	Doctors' Lounge, Main Floor
Aug. 14–16	St. Francis Hospital	7:00 a.m. – 2:30 p.m.	Medical Staff Lounge, 3rd Floor, Patient Care Tower
Aug. 17–18	Bristol Hospital	7:00 a.m. – 2:30 p.m.	Physicians' Lounge, Level C
Aug. 21	Lawrence & Memorial Hospital	7:00 a.m. – 2:30 p.m.	Doctors' Lounge, 2nd Floor
Aug. 22	Windham Hospital	7:00 a.m. – 2:30 p.m.	Griswold Room
Aug. 23	CSMS, New Haven	9:00 a.m. – 4:30 p.m.	Council Room

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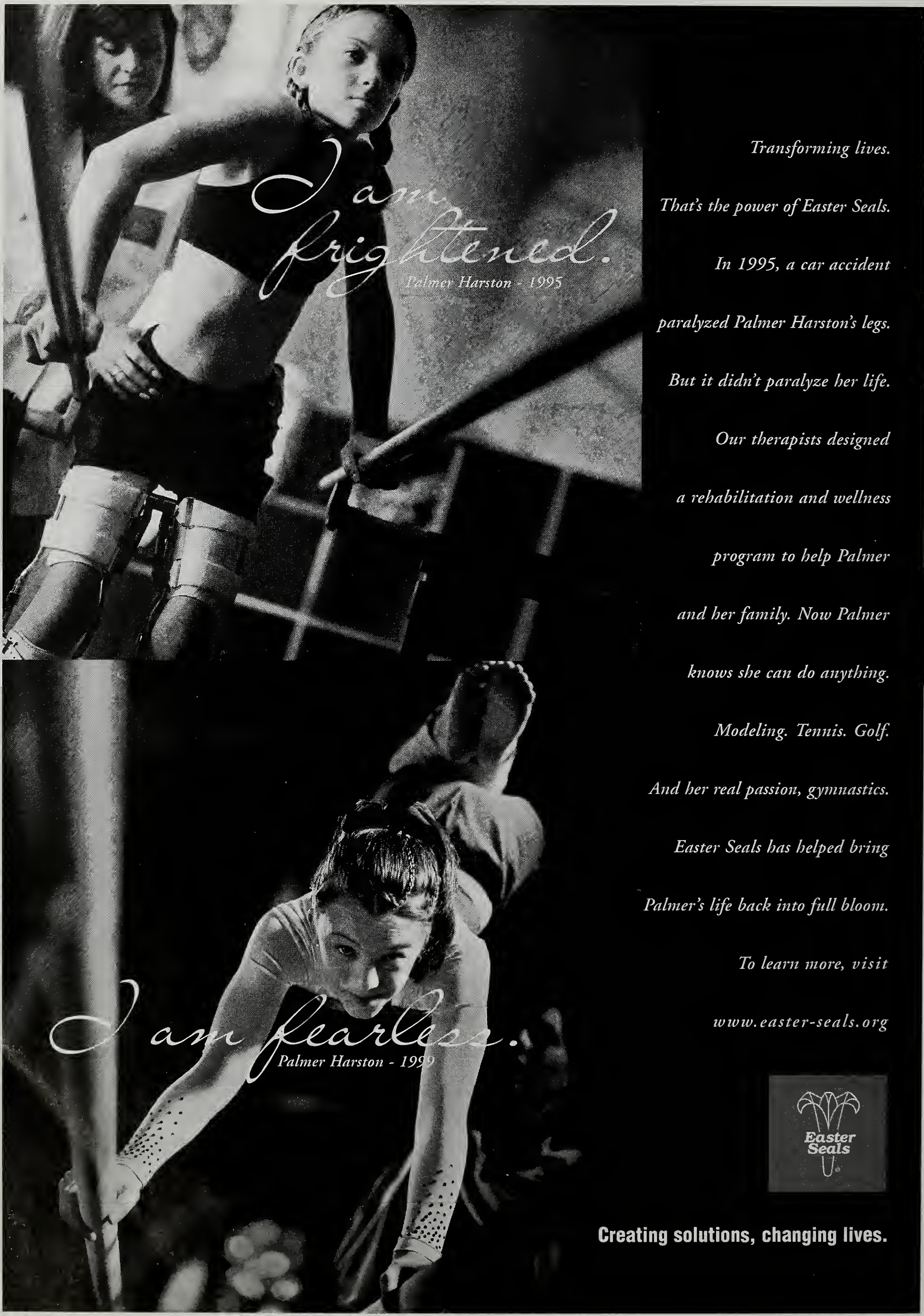

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Creating solutions, changing lives.

DONALD D. TIMMERMAN, M.D.
President

DONALD D. TIMMERMAN, MD

Education:

1970	University of Hawaii, BS, Biology
1972	University of Hawaii School of Medicine
1974	University of Rochester School of Medicine and Dentistry, MD

Professional Training:

1963-1966	United States Army Medical Corps, Ludwigsberg, Germany
1966-1967	Roland Klinik, Bremen, Germany
1974-1975	Middlesex Memorial Hospital Family Practice Residency
1975-1976	University of Connecticut Combined Pediatric Residency
1976-1978	University of Connecticut Family Medicine Residency

Certification:

1975	National Board of Medical Examiners, Diplomate
1978	American Board of Family Practice, Diplomate
1998	American Society of Addiction Medicine, Certification in Addiction Medicine

Academic Appointments:

1978-	University of Connecticut School of Medicine, Assistant Clinical Professor in Department of Family Medicine

Fellowship:

1997	American Academy of Family Physicians, Fellow

Medical Licensure:

1975-	State of Connecticut

Hospitals Positions:

1978-	Hartford Hospital, Courtesy Privileges in Pediatrics, Medicine and Outpatient Surgery
1978-	Middlesex Hospital, Senior Attending
1984-1994	Elmcrest Psychiatric Hospital, Active Medical Staff
1994-1999	Elmcrest Psychiatric Hospital, Director of Medical Services
1999-	Saint Francis Care Behavioral Health, Director of Medical Services, Portland Campus Courtesy Staff in the Department of Family Medicine

Professional Experience:

1978-1994	Marlborough Family Practice Center, Private Practice
1978–1995	Middlesex Hospital Family Practice Residency, Clinical Instructor
1980-1997	Marlborough Health Care Center, Nursing Home, Medical Director
1985–1989	Core Content Review of Family Medicine Editorial Committee
1989–	Core Content Review of Family Medicine Assistant Educational
1996-1998	InterQual Inc., Clinical Decision Support Criteria, Consultant
1997-1999	ProBehavioral Health, Drug Treatment Protocols, Consultant

Professional Organizations:

1978	Middlesex County Medical Association - Associate Counselor, 1992-1996; Counselor, 1996-1998
1978	Connecticut State Medical Society HIV Testing Ad Hoc Committee, 1991-1996 Connecticut Health Care Access Ad Hoc Committee, 1992 Representative to Office of Health Care Access Advisory Committee, 1994-1995 MD-PAC Board of Directors Secretary/Treasurer 1995-1997 Chair 1997- Committee on Allied Health, 1997- Charitable Trust, Trustee 1997- Managed Care Patient Advocacy Committee, Chair, 1998- Committee on Alcohol and Other Drug Dependency Education, 1998 Vice President 1998-1999 President Elect 1999-2000 President 2000-
1978-	Connecticut Academy of Family Physicians Board of Directors, 1984-1989 President, 1986-1987 Scientific Symposium Chair/Co-chair, 1990- Alternate Delegate to the American Academy of Family Physicians House of Delegates, 1991-1992 Delegate to the American Academy of Family Physicians House of Delegate, 1992- Representative to University of Connecticut School of Medicine Admissions Committee, 1994-1998
1978-1992	Connecticut Chapter of the American Cancer Society Colon Cancer Task Force, Chair, 1985-1992 Milton Geyer Public Education Volunteer Life Saver Award, 1991
1990-	American Medical Association
1997-	American Academy of Family Physicians Congress of Delegates, Reference Committee on Education, Chair, 1995 Committee on Scientific Programs, 1997-
1998-	American Society of Addiction Medicine

What is Our Destiny as Connecticut Physicians?

HOW should we live our lives as physicians during this time of tumultuous confrontation, challenge, and change? I believe that our medical profession is defined by indelible values such as dedication, empathy, compassion, service, candor, humility, advocacy, and reverence for human life. As doctors, we must respond to the outrageous encroachment of managed care on our professional integrity. Here, on the President's page, I will share my thoughts as I strive to apply these values to this struggle, day by day, over this millennium year.

An inherent ethical contradiction lurks in the managed care imperative to deny our medical authority, our professional experience, our better judgement and good sense. We are forced to follow the indifferent and arrogant edicts of an insurer's internal utilization review process. The perverse imperative of cost reduction ignores the fact that no two human beings are alike. It is not surprising that our patient's trust in us is constantly threatened and often destroyed.

Physicians are under constant pressure to compromise their professional values for the sake of employers and stockholders. We are compelled to sign contracts that allow a health plan to terminate a "provider" without notice, due cause, or recourse. Under some health plans, physicians become, in effect, employees stripped of legal protections. Low physician compensation that is not adequate to maintain the office staff carries the constant threat of insolvency. The three hundred group practices that have already foundered in California and Colorado are a constant reminder that no one of us is immune.

Society has no shield to protect us from these assaults. We are considered an essential commodity that is well compensated. In the past we have been labeled as self-serving. So, we are left essentially on our own, without the "deep pocket" resources necessary to hire "top gun" anti-trust lawyers, and without even the protections offered factory workers, because we are considered individual contractors who are indispensable to society. Every physician is intimately aware that the Justice Department waits in ambush for us to cross that ill-defined line called collusion with the threat of intimidation, humiliation, and litigation. We watch helplessly as our already fragmented and fragile health care system is torn apart by health plans, employers, regulators, consumers, investors, lawyers, and legislators. How do we represent our patients under these trying and confusing circumstances?

We must not forget that the past 10 years in Connecticut have been difficult times for our patients as well. The most reprehensible result of these health insurer actions is the rupture of trust between doctor and patient. This sacred bond is being manipulated by managed care on a daily basis:

- the patient is notified that the HMO formulary no longer provides the medicine just prescribed by the doctor and the HMO reviewer boldly suggests to the patient a more "cost-effective" substitute;
- the insurer automatically denies the intimately negotiated and mutually agreed upon diagnostic or treatment plan;
- the "doctor-to-doctor" review is imposed to "authorize" needed treatments, despite every intention of denying care;
- physicians are pressured to recite daily the mantra that a health plan does not provide certain health benefits or extended lengths of care.

The final blow is the inevitable look of incredulity on their faces, as we try to explain the dictates of managed care.

I can remember the middle-aged man who pleaded with me to obtain a PSA despite the fact that all the guidelines, lack of symptoms, and normal exam that surely indicated this was an unsupported and frivolous test. He thanked me with tears in his eyes ten days later after the prostatectomy that cured his cancer. I am sure you have had similar experiences. This trust, candor, and communication is the art of medicine; it is more cost-effective and life-saving than any proprietary protocol. No third party payer will ever stop a caring physician from making deeply personal and intuitive medical decisions, regardless of what the clinical guidelines say.

(continued on next page)

We are taking back control of our fractured health care system. The AMA has a new, politically aggressive patient-oriented policy of informing legislators, the press and the public about the dangerous aspects of managed care. The AMA encouraged and assisted us to advertise in newspapers throughout the state accusing Aetna of "playing doctor" with our patients and condemning Aetna's "all-products" clause. Also, CSMS is pressing an unfair trade practices complaint against Aetna to the Attorney General. Physicians across the country are following our example—they are fighting back through legal action and by spurning objectionable health plans. Finally, managed care is about to face the legal consequences of "playing doctor" with our patients, thanks to burgeoning class action suits from the same attorneys that forced the tobacco industry to accept responsibility for its actions.

We will decide our future. Our behavior under fire defines our character as a profession and our reputation as patient advocates. We must speak out loudly for our patients, clearly for our professional moral code, and practice what we preach—we must enter the debate on the health care system without hesitation. We have a moral and professional duty to create hope for our patients. The biblical scholar Hille wrote, "Watch your THOUGHTS, they become your words; watch your WORDS, they become your ACTIONS, watch your ACTIONS, they become your habits; watch your HABITS, they become your character; watch your CHARACTER, it will become your DESTINY."

Donald D. Timmerman, M.D.
President

Dr. Donald D. Timmerman, newly elected president of CSMS and Mrs. Timmerman

REFLECTIONS ON MEDICINE

Regional Anesthesia: A Century of Progress

ROBERT U. MASSEY, M.D.

ACCORDING to that old standby text, Garrison's *History of Medicine*, spinal anesthesia was introduced by August Bier a century ago in either 1899 or 1900. Garrison added that James Corning of New York City may have preceded Bier by 15 years. That Bier was not unfamiliar with the American surgical scene is clear from his somewhat ungracious comment, "In America there exist professional anesthetists. This specialty is also being praised in Germany. I cannot think of anything more dull." In 1900 in Paris, Dr. Will Mayo observed spinal anesthesia in Tuffier's clinic. He did not like the look of it, fearing "it would do irreparable damage to the central nervous system."

The German writer Günter Grass wrote a novel in the late 1960s, with the English title *Local Anaesthetic*: I have forgotten much of the story, but had marked the page with these lines:

> Even a hundred years ago the extraction of a molar was a serious undertaking. Here in Berlin at the Charité, four men were needed to pull a fifth man's molar without local anaesthesia—at the most his gums were painted with cocaine. I remember the stories my father told, he was a doctor: one man held the patient's left arm, the second wedged his knee into the pit of his stomach, the third held the poor devil's right hand over a candle flame so as to divide the pain, and the fourth worked with instruments that I'll be glad to show you pictures of some day. In our enlightened century, thanks to our highly developed techniques of anaesthesia we have left such acts of violence behind us.

My first awareness of the amazing grace of spinal anesthesia was 69 years ago. My father had been diagnosed as having an osteomyelitic lesion in his left tibia, and an orthopedic surgeon, Frank Curtis at Grace Hospital in Detroit, had urged an immediate operation. Since my dad had congenital heart disease, general anesthesia seemed out of the question. Even at that early day, 1931, a team of anesthesiologists at Grace were notable for their skill in regional anesthesia. My father, a professional chemist and science teacher, was more intrigued by the prospect of wakefulness during major surgery than fearful of the outcome. I recall him telling me how Dr. Curtis and the anesthesiologists laughed and joked and told him everything they were doing even while he heard the tapping of the hammer as his tibia was being chiseled away, "saucerized," they called it. He claimed, as further evidence of the anesthesiologists' skill, that his right leg retained feeling throughout the procedure.

Although I was only nine years old at the time, Dr. Curtis, a small man in a tweedy suit whose hard leather heels clicked as he walked down the long hospital corridors, became my hero. Eleven years later I entered medical school with the firm intention to be an orthopedic surgeon, or, just maybe, an anesthesiologist. Interest in orthopedics was briefly restored when Dr. Curtis and I met again during my orthopedic clerkship, but succumbed later, first to pathology, then to internal medicine.

Anesthesiology as a medical specialty arrived late on the scene. Hospital sections in anesthesia increasingly came under physician leadership after 1920, largely owing to the growing importance of regional anesthesia, a technology that required far more than dropping ether. That year Charlie Mayo persuaded the regional anesthetist Gaston Labat to come from France to chair their anesthesia section, but he remained only 10 months, possibly driven home by the Minnesota winter! For a while afterward supervision of the section fell to surgical fellows rotating through. The Clinic's first full-time head, John S. Lundy, was appointed in 1923. At the Henry Ford Hospital in Detroit where I had my residency, the section was under an anesthesiologist's direction only after 1946; it became a department in 1952. Hartford Hospital appointed its first director of anesthesiology in 1936, Dr. Ralph Tovell, who began a two-year residency program the following year.

In his book, *Anesthesia and the University,* Nicholas M. Greene, professor of anesthesiology at Yale, wrote that it was almost inevitable that dentists rather than surgeons would lead in the discovery and acceptance of anesthesia; that may have delayed anesthesiology's acceptance as a professional discipline, especially in academic medicine. Fritz Yonkman, my professor of pharmacology in 1944, predicted that anesthesiology would become the next major specialty in medicine and that it would be dominated by women.

A colleague, a professor in the dental school, remarked to me a few years ago after his laminectomy, "We have a lot to learn from you guys about pain control!"

ROBERT U. MASSEY, M.D., Professor Emeritus, Division of Humanistic Studies, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington.

This Month's Reading in Review

TIMOTHY B. NORBECK

"There are those who say the pendulum has swung too far: I agree with them. I think it's time to bring it back to center. And with it will come, I promise, a sea of change in our corporate attitude toward working with your profession.... We have listened to what you have been telling us....

Forging stronger, lasting partnerships with you is extremely important to me. It's one of the main initial goals I set forth for the company—and for myself—when I became CEO of Aetna. I'm serious about that commitment and hold myself personally accountable for the outcome. When I go to my own doctor, or when I see the members of my own family who are practicing physicians, I want to hear that Aetna has changed—for the better."

From the remarks of William H. Donaldson, new chair and CEO of Aetna, at the Connecticut State Medical Society House of Delegates on 10 May 2000. It was his first public appearance before a physician audience in his new position.

The legislation is "just another effort to impose price controls. We oppose price controls in any form, not direct price controls—not indirect price controls, not by design, not by accident, not by stealth, and not by baby steps."

Pharmaceutical Research and Manufacturers of America (PhRMA) President Alan Holmer responding to a bill offered by U.S. Senator Slade Gorton (R-Wash.), which would equalize drug prices in the U.S. and abroad.
Congressional Daily/A.M. (27 April 2000)

Oops!

"In a mix-up that upset many and perhaps delighted a few, Michigan Blue Cross Blue Shield distributed its annual Blue Pages publication to more than 20,000 providers with a toll free listing for Medicare information that was actually the number for Pleasure Entertainment, a phone sex line that charges $2.99 to $5.99 a minute for listening enjoyment. After repeated complaints, Blue Cross republished the guide with the correct number."

Detroit Free Press (26 April 2000)

"Before the end of the year, Congress must decide whether to allow more individuals to open medical savings accounts (MSAs) or do away with the program. MSAs, which began in 1997 on an experimental basis, allow people 'to set aside money, tax-free, to pay medical bills and the relatively low premiums for health insurance policies with high deductibles that they must have to protect themselves in case of expensive illnesses.' Individuals can shelter up to $1,462 and families up to $3,375 from taxes and that money can be invested in mutual funds or stocks and withdrawn at age 65.... According to the Internal Revenue Service, fewer than 45,000 people had MSAs last year, which is below the 750,000 Congress agreed to let try the accounts. Republicans and specialty insurance firms have argued in favor of expanding MSAs, saying that they 'give consumers more freedom to choose doctors and provide low-cost coverage for millions of uninsured Americans.' As part of the House-passed patients' rights measure, MSAs would be open to all Americans, a plan backed by the GOP. On the other hand, Democrats and consumer groups maintain that MSAs mostly benefit the healthy and wealthy. They argue that MSAs will siphon off the healthiest people from traditional insurance plans, prompting health plans to raise premiums and make insurance less affordable."

AP/*Chicago Tribune* (23 April 2000)

Researchers have released yet another study illustrating the "continued pressures many U.S. elderly face in getting access to needed medications."... The number of Medicare beneficiaries with prescription drug coverage declined by more than 7% from 1998 to 1999.... In 1998, 69% of Medicare recipients had prescription coverage, compared to 64% one year later.... Additionally, 62% of recipients enrolled in a Medicare managed care plan had coverage last year, down from 74% in 1998.

Wall Street Journal (10 May 2000)

Researchers in England have found a new use for the male anti-impotence drug Viagra that has nothing to do with sex.... It turns out the ingredients in Viagra can double the shelf life of vegetables, fruits, and flowers because it produces nitric oxide and inhibits the production of ethylene (which causes fruits to age).

American Family Physician (1 April 2000)

Only in America: A man sued the City of San Diego and a beer vendor because women used the men's restroom at a local concert.... He claimed it was so "traumatic" for him that he was unable to use the facilities.

Forbes (1 May 2000)

TIMOTHY B. NORBECK, Executive Director, Connecticut State Medical Society, New Haven.

Letters to the Editor

Letters to the Editor are considered for publication (subject to editing and abridgement), provided that they are submitted in duplicate, signed by all authors, typewritten in double spacing, and do not exceed 1-1/2 pages of text (excluding references). They should not duplicate similar material being submitted or published elsewhere. Letters referring to a recent Journal article should be received within six weeks of the article's publication.

"How Much Care Is Good For Us?"

Letter to the Editor: In the February issue, (*Conn Med* 200; 2:117) Dr. Massey raises some very good points in his essay "How Much Care Is Good for Us? Surely There Are Limits!" This is something that should concern all physicians because it affects their daily practice. For instance, not only do unnecessary testing and office visits to a doctor raise the cost of health care greatly, they also waste a physician's time and energy. Many times they lead to unneeded consultations. Partly this is due to the fact that, as Dr. Massey mentioned, for many patients medical care is "free." Clearly, since the advent of managed care many physicians have experienced an increased number of healthy patients seeking reassurance that "everything" is okay. I have some patients who go into a dither if their cholesterol count goes from 190 to 210. Although I know some cardiologists may not agree with me, my response is "relax." Others come in and tell me they want their cholesterol checked even though it was checked just a month ago and was at a good level. Because they are not paying for it they don't worry about the financial consequences.

The same thing happens with many other types of testing. Many patients with joint pains want to be tested for Lyme disease. The overwhelming majority of them do not have the disease. Often it is just a virus or muscle strain. I see them a month later and they feel fine. Again, because they are separated from the costs they have no incentive to think more rationally.

It seems that if patients were more responsible for the tests and consultations, the amount of care they would be receiving would be closer to the reasonable limits that Dr. Massey believes are lacking. However, there are other reasons that might explain why physicians order a large number of tests and medications and why many patients have come to expect or demand them.

First, physicians are under tremendous legal pressure to leave no stone unturned when evaluating patients. The simplest symptom can turn out be due to a life-threatening disease. Even when physicians have exercised sound clinical judgment, patients often are not very understanding of the physician's honest error. Over the past 30 years physicians have had to learn to practice defensive medicine to the degree that defensive medicine is now considered good medicine! Until defensive medicine is brought to the public arena and society is made aware of how much it escalates the cost of health care, patients will demand and physicians will continue to give them more health care than they need. Public education is sorely needed in this area.

It is remarkable that throughout the recent health care debate the question of defensive medicine has not been looked at seriously by any of our legislators. The only sector that raised any fuss over it was the HMO industry. They were infuriated when legislation was passed in various states—Texas being the first— that held them accountable for the consequences of denying or delaying health care, declaring that doing so would expose them to lawsuits and compel them to practice defensively. It would oblige them to loosen all their precertification requirements. One wonders why organized medicine did not take advantage of this opportunity and work with the HMO industry to correct the abuses and inadequacies of our current malpractice system and look for better ways to compensate patients who suffer setbacks in the course of medical treatment.

The second factor that contributes to the seemingly unlimited outpouring of health care to patients is the concept of the nanosecond that author James Gleick used to describe the increased pace that modern technology has brought to almost every aspect of modern life. As he says in his book *Faster: The Acceleration of Just About Everything* (1999 Pantheon Books, New York) "We have reached the epoch of the nanosecond." Who would deny that while technology has indeed accelerated almost every aspect of patient care it has also added "too much care" in some instances? For example, consider how quickly patients are processed when they come into the hospital today compared to 10 years ago. A mere decade ago patients were admitted with a problem and tests and consultations were ordered in a timely fashion that depended on the admitting physician looking over test reports and consulting with his colleagues. Today, because of the pressure placed on hospitals by managed care organizations, when a patient is admitted one or more consultants are called and a complete battery of blood and imaging tests are ordered to cover most of the possible diagnoses being considered. This excessive attention to efficiency and productivity has undermined physicians' integrity. Both are synonymous with speed and have warped our professional mindsets. Many of the things physicians do, by their very essence, require time. Efficiency and productivity carried to excess are inconsistent with sound medical practice. We spend less time talking to patients, and less time evaluating their physical symptoms and order some blood tests and a CAT scan instead. This rapid fire approach not only dehumanizes medicine, but it provides residents in training with less of an opportunity to go through the mental process of inclusion or exclusion when making their diagnoses and instituting treatment. Arguably, this excessive attention to speed might contribute to the medical errors cited in the recent Institute of Medicine report.

As Dr. Massey suggests, placing more responsibility upon patients for how health care is paid for by encouraging them to buy medical savings accounts; or by having employers simply give employees a fixed amount by which they could shop around for their own insurance represent two good ways of getting patients to use medical resources more wisely. But I like his second suggestion better—"lets educate our fellow citizens." In the final analysis, educating the public about health care, its costs, its rationale and complexity, and the deleterious effects of defensive medicine will provide much greater benefits than the excessive cost-control and productivity injunctions that are at the heart of the managed care philosophy.

Edward J. Volpintesta, M.D.
Bethel

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CALL FOR PAPERS

Members of the Connecticut State Medical Society reading papers before other organizations are invited to submit their papers to the *Journal* for consideration. Authors preparing manuscripts for submission to *Connecticut Medicine* should consult **Information for Authors**. This is published in most issues of *Connecticut Medicine* or may be obtained from the *Journal* office. Adherence to the instructions will prevent delays both in acceptance and in publication.

Papers prepared on a word processor should be submitted on a diskette along with the hard copy.

Please send them to:

H. David Crombie, M.D., Editor
Connecticut Medicine
160 St. Ronan Street
New Haven, CT 06511

SUMMARY OF PROCEEDINGS
CSMS HOUSE OF DELEGATES—ANNUAL MEETING
RAMADA INN, MERIDEN—10 MAY 2000

Reports and Addresses

The House received reports, addresses, and/or remarks from the incoming President and the retiring President, Secretary, Treasurer, the Chair of the Council, Delegates to the AMA, Chair of the Board of Directors of M.D.PAC, the CSMS Executive Director, CSMS-IPA, Connecticut Medical Insurance Company (CMIC), Standing Committees, Representatives, and Advisors. Most of the reports and resolutions were published in the Handbook that was distributed to the delegates. The addresses of the Executive Director, Tim Norbeck, the retiring President, Stephen R. Katz, M.D., and the inaugural address of the new President, Donald D. Timmerman, M.D., appear at the conclusion of this summary.

Dr. Thomas R. Reardon, President of the AMA, gave an address at the luncheon and Mr. William H. Donaldson, CEO of Aetna, addressed the House.

PRINCIPAL ACTIONS TAKEN
Election of Officers and Others

The House voted to approve the published report of the Nominating Committee with one amendment (the Council). Officers elected were:

President: Donald D. Timmerman, M.D., Glastonbury
President-Elect: Alfred Herzog, M.D., Hartford
Vice-President: Isaac Goodrich, M.D., New Haven
Secretary: Brian M. Van Linda, M.D., Avon
Treasurer: Roger S. Beck, M.D., Wethersfield
Speaker of the House of Delegates:
Howard J. Wetstone, M.D., Bloomfield
Vice-Speaker of the House of Delegates:
John P. Bigos, M.D., New London
Councilor-at-Large: Stephen R. Katz, M.D., Fairfield

Delegates and Alternates to the American Medical Association:

Anthony P. Redmond, M.D., Greenwich (D)
1/1/00–12/31/01
Ferdinand J. Montegut, Jr., M.D., Shelton (A)
1/1/00–12/31/01
Neil J. Brooks, M.D., Rockville (D)
1/1/00–12/31/01
Sultan Ahamed, M.D., Norwich (A)
1/1/00–12/31/01
Francis J. Scarpa, M.D., Greenwich (D)
1/1/01–12/31/02
Michael M. Deren, M.D., New London (A)
1/1/01–12/31/02
Joseph S. Sadowski, M.D., Hartford (D)
1/1/01–12/31/02
Dickerman Hollister, Jr., M.D., Greenwich (A)
1/1/01–12/31/02
Mehdi S. Eslami, M.D., Waterbury (D)
1/1/012/31/02
John B. Franklin, M.D., Hartford (A)
1/1/01–12/31/02

Following are the actions taken on the business that came before the House:

OLD BUSINESS

At the 1999 semiannual meeting, the following resolutions were referred to the Council by the House of Delegates for implementation: The report of the Chair of the Council, which was accepted by the House, included the following information:

RESOLUTION: "Definition of Surgery"—The House referred a resolution on the "Definition of Surgery" to the Council for development and adoption and transmittal to the Legislative Committee before the next legislative session. The Council adopted the following resolution and forwarded it to the Legislative Committee for implementation.

"Surgery means any procedure in which human living tissue is cut or permanently altered by mechanical or energy forms, including but not limited to electrical or laser energy or ionizing radiation, or any procedure that invades the body or body cavities for therapeutic, cosmetic, or diagnostic purposes."

RESOLUTION: "Specialty Society Representation in the House of Delegates"—A resolution to amend the CSMS Bylaws to provide for specialty representation in the House of Delegates was referred to the Council to be redrafted and provide for one delegate and one alternate from each CSMS specialty section, and to invite other specialty groups that might wish to participate in the House of Delegates to apply for specialty status.

The Council adopted changes presented in the bylaws as follows: "Each CSMS Specialty Section shall be entitled to send from its membership to the House of Delegates each year one delegate and one alternate delegate."

***RESOLUTION:* Health insurers to have their contracts with caregivers begin and end on a specific date and no changes be introduced during the dates so specified unless agreed upon by both parties.**

Resolved, that the Connecticut State Medical Society seek legislation, or an administrative regulation, requiring that each health insurer contract with caregivers for an annual period during which time period the significant terms may not be altered unilaterally so that the health insurance provider directory from which patients select physicians be accurate for a defined period of time, thereby preventing potentially dangerous disruption of a patient's care.

The following staff recommendations were discussed and accepted:

Requiring annual contracts would also restrict the physician's contracting options. It might also provide the insurers with an excuse to prevent a physician from entering a plan during the annual period. The question arises whether a mandated provider contract term is needed or is in the best interest of the physician.

The current CSMS legislative initiative to ensure contract fairness calls for a prohibition of unilateral changes during the term of the contract—for many reasons and not just for the purpose of accurate provider directories. It was stated that no action is needed, as this is a part of the CSMS Legislative Agenda for 2000. This issue has also been brought to the attention of the Attorney General in formal complaints and the ad campaign regarding Aetna/US Healthcare.

The current state law requires managed care organizations to provide each enrollee with an annual listing of providers available under the provisions of the enrollee's enrollment agreement and notification upon the termination or withdrawal of the enrollee's primary care physician. During a meeting with the Insurance Commissioner and the HMO Associations, CSMS expressed concern about the issue of inaccurate provider directories and requested information on any complaints regarding the accuracy of the directories. The HMOs reported they are working to keep the directories updated, and many are placing the directories on line.

NEW BUSINESS

THE HOUSE VOTED TO APPROVE THE FOLLOWING RESOLUTIONS

RESOLUTION: "Waiting Periods in Drug Formularies"

Resolved, that the Connecticut State Medical Society shall seek legislation, which would require managed care organizations to cover at least a ten day supply of a non-formulary prescription drug while the physician is reviewing and/or appealing the HMOs decision to use a formulary drug.

RESOLUTION: "Reforming the Method of Settling Medical Malpractice"

Resolved, that the Connecticut State Medical Society look into other methods of settling Medical malpractice disputes, including arbitration and any other methods, that attempt to resolve malpractice disputes outside of the courtroom.

RESOLUTION: "Report on Resolutions Passed or Referred by the House of Delegates"

Resolved, that the Connecticut State Medical Society shall publish a report for inclusion in the Handbook for each House of Delegates (starting with the one for November 2000 which shall provide the status for all resolutions passed or referred for the previous three years.

RESOLUTION: "Physician Involvement in the Legislative Process"

Resolved, that the Connecticut State Medical Society encourage each member of the Society to aid the Society in fostering and promoting the legislative agenda of organized medicine and to contribute to M.D. PAC, and be it further

Resolved, that the Connecticut State Medical Society work with each county medical association to formulate and implement a plan to publicize the resolution among its members as well as to channel and utilize this dedicated time in furtherance of the aforementioned goal.

RESOLUTION: "Requirement that Insurance Companies Pay for all CPT Codes with a Given Procedure When Performed on the Same Day"

Resolved, that CSMS pursue legislation to require insurance companies to pay for all CPT codes for medically necessary and appropriate independent procedures performed on the same day.

AWARDS

2000 Distinguished Citizen Award

The award was given to Mr. Sigmund Strochlitz, a Connecticut resident, who has contributed to the quality of life of many by organizing official Holocaust observances in the United States. By these ongoing observances, he has helped thousands to remember the past, in order to heal the present, and to prevent atrocities against humankind in the future. Mr. Strochlitz was born in Poland and survived several concentration camps, including Auschwitz, during World War II. He attended the University of Cracow in Poland and came to the United States in 1940. He was appointed by former President Carter to help charter the

U.S. Holocaust Memorial in Washington, D.C. He is a member of the U.S. Holocaust Council where he received a mandated mission to organize official Holocaust observances in every state in the United States.

Award to Retiring President

Dr. Dickerman Hollister, Jr., Chair of the Council, presented a Paul Revere silver bowl and past president's pin to Stephen R. Katz, M.D.

Inauguration of New President

Dr. Dickerman Hollister, Jr. gave the Oath of Office to the new president, Dr. Donald D. Timmerman, and presented him with a gavel and a presidential medallion inscribed with his name and date.

AMA Delegates

Dr. Jerome Bobruff, New London, and Dr. Joseph C. Czarsty, Oakville, who served with distinction for many years and have retired from the delegation, were awarded Paul Revere silver bowls.

Thomas R. Reardon, M.D., president of the AMA, guest luncheon speaker. Joseph S. Sadowski, M.D., chairman of CSMS AMA Delegation is in the background.

Sultan Ahamed, M.D. speaking at the reference committee hearing. Michael M. Deren, M.D., is behind him.

Conflict of Interest

At the November 19, 1998 meeting of the House of Delegates, the following resolution was adopted:

"Resolved, All persons nominated for positions as officers and committee chairpersons of the Connecticut State Medical Society shall disclose for publication in the delegates handbook, prior to the election, any and all business relationships with insurance and managed care entities, other than the usual "third party" practice relationships. Additionally, this information shall be published annually in *Connecticut Medicine* together with the same information for all members of the CSMS Council as well as senior management."

Following is the list of the responses:

COUNCIL MEMBERS

Sultan Ahamed, M.D., Norwich—President and Chair of Board of CMIC
Board Member, Colonial Cooperative Care
Board Member, Backus Hospital
Board Member, Physician Insurance Association of America
Corporator, Dime Savings Bank, Norwich
Seyed H. Aleali, M.D., Bridgeport—Board Member, Physician Health Services
Roger S. Beck, M.D., Wethersfield—No affiliations
John Bigos, M.D., New London—No affiliations
Neil H. Brooks, M.D., Rockville—No affiliations
Craig W. Czarsty, M.D., Oakville—Claims Committee, CMIC
Michael M. Deren, M.D., New London—Board of Directors, CSMS-IPA
Director, Colonial IPA
Member—PHS Quality Assurance Committee
Stephen G. Ducey, M.D., New London—No affiliation
Mehdi S. Eslami, M.D., Waterbury—Board of Directors, CSMS-IPA Board
Member, CMIC
John B. Franklin, M.D. Hartford—No affiliations
J. Robert R. Galvin, Jr. M.D., Glastonbury—No affiliations
William J. Geary, M.D., Hartford—Board Member, MedServ of Connecticut
Robert W. Geist, M.D. Middletown—No affiliations
Isaac Goodrich, M.D., New Haven—No affiliations
William Handelman, M.D., Torrington—Board of Directors, CSMS-IPA
Credentials Committee, CSMS-IPA
Utilization Management Committee, CSMS-IPA
Alfred Herzog, M.D., Hartford—Board Member, CSMS-IPA
Dickerman Hollister, Jr., M.D. Greenwich—Board of Directors, CMIC
Stephen R. Katz, M.D., Fairfield—Board Member, CSMS-IPA
Stanley J. Keating, Jr., M.D., Simsbury—Board of Directors, CMIC
Paul K. Maloney, Jr. M.D., Fairfield—No affiliations
Vazrick Mansourian, M.D.,New Haven—PHS Board, CMIC Board
Ferdinand J. Montegut, Jr., M.D., Shelton—No affiliations
Anthony P. Redmond, M.D., Greenwich—No affiliations
Joseph S. Sadowski, M.D., Hartford—Board Member, CMIC
Francis J. Scarpa, M.D., Greenwich—Medical Policy Committee, Anthem Blue Cross
Board of Directors, Oxford Health Plan
Gerald L. Schwartz, M.D., Vernon—Board of Directors, Physicians Health Service
Pharmacy and Therapeutic Committee, PHS
Desh R. Sindwani, M.D., Stafford Springs—No affiliations
Juan B. Sosa, M.D., Middletown—Partner, Psychiatric Management, Inc. (PMI)
Kolala R. Sridhar, M.D., Norwich—No affiliations
Michael R. Tesoro, M.D., Sharon—No affiliations
Donald D. Timmerman, M.D., Portland—Board of Directors, CSMS-IPA
Gregory T. Turner, M.D., Willimantic—No affiliations
Brian M. Van Linda, M.D., Avon, Board of Directors, CMIC
Board of Directors. Professional Liability Company of America (PLICA)
Howard J. Wetstone, M.D., Bloomfield—No affiliations
Paul Y. Wong, M.D., Putnam—No affiliations

COMMITTEE CHAIRS

Arthur F. Blake, M.D., Higganum—Stockholder, Middlesex Professional Services,
IPA Stockholder, ProHealth Physicians, P.C.
H. David Crombie, M.D., Hartford—No affiliations
Aarold E. DoRosario, M.D., Bridgeport—No affiliations
James F.X. Egan, M.D., Farmington—Medical Advisory Board, Women's Integrated Network
Vittorio Ferrerro, M.D., Essex—No affiliations
Karen A. Hutchinson, M.D., Bridgeport—No affiliations
Leslie B. Lindenberg, M.D., Avon—No affiliations
Ramon N. Kranwinkel, M.D., Danbury—No affiliations
James S. Kort, M.D., Vernon—No affiliations
Mark L. Kraus, M.D., Waterbury—No affiliations
John W. O'Brien, M.D., New Haven—Occasional Consultant, Anthem Blue Cross
David W. Parke, M.D., Wallingford—No affiliations
Alicia Perez, M.D., Danbury—No affiliations
Michael F. Saffir, M.D., Bethany—No affiliations
Lucius F. Sinks, M.D., Middletown—No affiliations
Constance T. Walker, M.D., West Hartford—No affiliations

SENIOR MANAGEMENT

Timothy B. Norbeck, New Haven—Board of Directors, Gaylord Hospital

Address of the Executive Director

CSMS Annual Meeting—House of Delegates

10 May 2000

TIMOTHY B. NORBECK

BACK many years ago in the old Soviet Union, a joke circulated about a dissident who hung a number of posters along Moscow's streets to protest the regime's arrogance and unmitigated power. Nothing unusual about that except that these posters were all blank. The police arrested him and roughed him up a bit and then, curious, asked him why the posters carried no message. "There's no need," the dissident replied: "The message is well known to everybody." Indeed the same could be said today in America with the burgeoning power of the health insurance industry not only infringing on the patients' right to choose their physicians but also on physicians' professional autonomy to treat those patients.

That corporate power and control today is reminiscent of the remark made by the powerful U.S. industrialist William Henry Vanderbilt more than 100 years ago after he was criticized for ignoring the public interest. "The public be damned," he said, "I am working for my stockholders." Sound familiar? Except Vanderbilt wasn't selling health insurance.

Look at what's happening in California. Some 90% of all California group practices are believed to be on the brink of insolvency. The reason: low capitation rates and unfair "take it or leave it" fees. We can ill afford the Californication of our entire health-care system.

Some are not by nature optimistic in days like these.

Comedian George Carlin likes to say: "Some see the glass as half-empty, some see the glass as half-full. I see the glass as too big."

Chairman Mao used to say that "it's always darkest before it's totally black."

But it doesn't do us any good to be pessimistic.

"Pessimism never won any battle," declared Dwight Eisenhower. He was right. Pessimism visualizes defeat. What we visualize, we bring forth.

But you have victories to point to—to shore up our spirit. AMA President Dr. Tom Reardon mentioned progress on Norwood/Dingell legislation and the Campbell bill—and, of course, our joint CSMS-AMA effort to take on Aetna's "all-products" clause.

Speaking of the "all-products" clause, I spoke to some Connecticut employers the other day and I quoted a British economist who had said, "The cure for admiring the House of Lords is simply to go and look at it." I told them that if they go and look at "all-products," they would most certainly understand our wrath—that no businessman or businesswoman in the country would sign it. But for physicians, it's sign the contract or lose the patients.

And there are other positives in the wind. While it is true that Federal Trade Commission Chair Robert Pitofsky does not support the Campbell bill, I do believe that he understands the problem. I spoke with him recently and he said: "Believe me, I don't want my HMO telling my doctor what he can or can't do." He would like something between patient's rights and the Campbell bill—and that's an improvement on his past position.

I also had an opportunity to speak with Tom Donohue—President of the National Chamber of Commerce—and while he would not support taking away the ERISA exemption, he did express sympathy for physicians. He said he and the Chamber were concerned about physicians not determining what is "medically necessary" and not having any leverage in contracting. The Chamber supports the concept of a defined contribution for employers—and that would help.

There was a time, and not so long ago, when physicians complained that freedom of the press was guaranteed only to those who owned one. But those days, happily, seem to be behind us now—or at least at the present time.

The media has done a good job in reporting the dark side of managed care. For example, columnist Jane Brody chastised the HMO industry last month for not providing enough health maintenance for its members—even though studies have shown that the ultimate savings from more preventive screenings, etc., would more than make up for the initial costs. As I read her criticism, I was reminded of comedian Joe E. Lewis' comment years ago. "I read an article in the *Reader's Digest* on the dangers of smoking," said Lewis. "I was so upset that I gave up ... the *Reader's Digest*."

Managed care arrogance even exacerbated the tragedy at Columbine High School on April 20, 1999. One of the student survivors shot by Harris and Klebold had four operations and faces a long, painful road to recovery. He needed an $1,800.00 therapeutic mattress to alleviate the pain, but surprise! His HMO refused to pay for it, just as it has for the surgery he needs to repair the damage to his face. The HMO claims that such surgery is cosmetic and thereby not covered.

The author of the Norwood/Dingell legislation, Republican Representative Charlie Norwood of Georgia puts it best: "One of the primary reasons I sold my dental practice in 1994 to run for Congress," he said, "was to make sure the Clinton plan was dead for good. The Wall Street variety of Republican seems to think that Clinton Care is just fine, as long as corporations run the show instead of the federal government. Health insurance is the only industry in this country that enjoys a federally mandated shield against liability for its action, and that's at the root of the horror stories of managed care."

The Campbell bill—HR 1304—staunchly supported by organized medicine and which would allow independent physicians to negotiate with health plans, has generated a lot of discussion in Congress. We know that our present health-care system is dangerously out of balance, and that the Campbell bill will help level the playing field for physicians and patients.

Some in Congress understand just how important that balance is, but there are others who oppose the bill but want to make it look like they are doing something—just like Henry Cabot Lodge when he asked Teddy Roosevelt during the 1902 coal strike: "Isn't there something we can appear to be doing?"

This government-style smokescreen reminds me of a story about the French police who were chasing a criminal who fled into a rather large building in Paris. Their first thought was to surround the building. But then they realized that the building was so big and had so many exits, that they didn't have enough policemen on the scene to carry out that strategy. So instead, they surrounded the building across the street, which was smaller and had fewer exits. That seems to be the mentality of those in Congress who oppose the Campbell bill but recognize that something has to be done.

Important patient's rights legislation, the Norwood/Dingell bill—HR 2723, which passed the House of Representatives on October 7th, remains in the news today. It will allow physicians to determine what is medically necessary and empower patients to sue their HMO when injured by that entity. But many in Congress remain vocal in their opposition to real accountability. "We are born with our eyes closed and our mouths open," it has been said, "and we spend the rest of our lives trying to reverse that mistake of nature." Some members of Congress have yet to progress beyond that initial stage of development.

In response to the heavy lobbying of the insurance industry against the Norwood/Dingell legislation—and gloating about their success thus far in bottling it up and avoiding accountability—I would remind them of the story of the hungry mountain lion that came out of the hills, attacked a bull, and killed it. As it feasted on the bull, the lion paused from time-to-time to roar in triumph. A hunter in the area heard the commotion, tracked down the lion, and shot him dead. The moral of the story, of course, is: "When you are full of bull, keep your mouth shut!"

In HMO-ruled California, where there is more chaos than anywhere else, citizens are worried about their health care, and their attitudes will have more than a ripple affect on the rest of the country, in general, and the Presidential election in particular. Polls show that nowhere in the country are opinions about health care more passionate than in the Golden State.

Health care will be the most important factor in deciding whom to vote for in their congressional and statehouse races. Nowhere do antiinsurer sentiments run higher or is opposition stronger or more organized than in California—among activist groups like unions, consumers, and trial lawyers.

Managed care first began, of course, in California and it is not a mere coincidence that its consumers are feeling disenfranchised. And remember, too, that California has 54 electoral votes—or 20% of the total needed to win the presidency. Furthermore, California has passed a law allowing patients to sue their HMOs, with no limit on damages, which will go into effect next January.

Another interesting factor, and which is in medicine's favor, is the women's vote in general. The women's vote, already decisive in the last two presidential elections, has already proved a potent force in this year's primaries.

In California—there's that state again—women accounted for 54% of the vote, men for 46%—a spread of eight percentage points. In Maryland and our state of Connecticut, the spread was 14 points—in Georgia and

Missouri 18 points; and in neighboring Massachusetts, 16 points. But here's the kicker: In a recently released Kaiser Family Foundation poll, 61% of women said health care was their number one issue, as opposed to 39% of men. Those numbers bode well for congressional and presidential candidates who support patients' rights legislation.

And speaking of that November election, it has other significance as well. It is interesting to note that Republican Presidents have appointed seven of the nine U.S. Supreme Court justices. As many as five justices may retire during the term of the next Presidency. That composition might have special meaning, given the Court-suggested breakup of Microsoft, etc. And if Republican candidate Bush wins in November, it would make only the second time since 1932 that they have had such control.

We know that the election certainly will impact patient rights and HMO accountability. Hopefully, the politicians have noted the recent *Washington Post* poll that found that "concern about HMOs is the number one voter issue among Democrats, Independents—and Republicans!

The people are echoing what Sir William Osler said when addressing the 1875 graduating class at McGill, "No one should approach the temple of science with the soul of a money changer."

Patients want their physicians back in charge of their care. Ronald Reagan liked to tell the story about an accident where the victim was lying in the street as bystanders gathered around. A woman was bending over him trying to help. A man then elbowed his way through the bystanders, shoved the woman aside, and said: "Let me through; I have first-aid training."

She stepped aside, and he knelt down and started doing all the prescribed things in his training. After some time, she tapped him on the shoulder and said: "When you get to the part about calling the doctor, I'm right here."

We can win the physician autonomy and HMO accountability battles, by physicians working together and sharing that commitment.

There are few better stories about commitment than the passion, bravery, and commitment of the Gurkhas—citizens of Nepal best known for serving as British soldiers in World War II. Back then an English reporter had heard so much about the Gurkhas, that he paid a visit to their camp just in front of the enemy lines. During the course of his reporting, he had occasion to observe a mission being conducted. The mission was to airdrop the soldiers behind enemy lines to wipe out some machine guns. He watched the commander of the Gurkhas pitch the mission and then ask for volunteers. To his surprise, only about half the Gurkhas volunteered and were sent off.

Thoroughly disillusioned with the legend of Gurkha bravery, the reporter went back home. After the war, he happened to run into a Gurkha who had been there, and asked him why half the troops had failed to volunteer. It turned out that the entire Gurkha squad, both those who did volunteer and those who did not, were totally unaware that they would be getting a parachute before being dropped. That half volunteered, believing that death was a certainty, confirmed their hallowed reputation.

We won't ask you to jump into the fray without parachutes, but we do need you to stick together, to believe that you can make a difference and join MDPAC.

Each delegate to this House represents 35 CSMS members. Since they are not here, it is up to you to bring them the message that CSMS, the counties and AMA have gained some important ground in the past six months, but the next six are critical, too.

The elections, both state and national, loom ahead in November and the physician's voice must be heard. We need all of you to join MDPAC.

You must remember one compelling certainty: If physicians join together, the future is yours. If you don't, the future is theirs.

CSMS president
Stephen R. Katz, M.D., presenting
the Distinguished Citizen Award to
Mr. Sigmund Strochlitz.

Dr. Hollister presenting Past
President's pin to Dr. Katz.

Dickerman Hollister, Jr. M.D.,
Chair of the CSMS Council,
presenting a Paul Revere Silverbowl to
past president Stephen R. Katz, M.D.

Address of the Retiring President

CSMS Annual Meeting—House of Delegates

10 May 2000

STEPHEN R. KATZ, M.D.

Is "Whatever's In The Contract" What We Want For Our Patients?

A recent issue of Health Affairs[1] contained an article discussing the takeover of financially troubled major teaching hospitals by for-profit corporations. Specifically, the article discussed three for-profit takeovers that had occurred only after other local nonprofit hospitals had refused affiliation and mergers that were designed primarily to achieve fiscal integrity for the teaching facilities. During the course of the research interviews, one of the authors asked an administrator, "What is the best that you can possibly expect from your merger?" The administrator's answer was simple and direct. He said, "Whatever's in the contract."

The administrator's answer was accurate, of course. But today, as I address you for the last time as President of the Connecticut State Medical Society, I must look all of you in the eye and ask,

- does "whatever's in the contract" adequately define our duties as physicians, or properly define our ethical obligations to our patients?
- does "whatever's in the contract" really encompass the sum and substance of our profession?

In short, is "whatever's in the contract" what we really want for our patients? Does it even begin to explain the aspirations and desires that brought us to the study of medicine in the first place, and that even today continue to attract gifted, bright, and dedicated young people to our profession? I don't think so.

Hippocrates obligated us to "follow that method of treatment which, according to my ability and judgment, I consider for the benefit of my patient." Does "whatever's in the contract" exempt us from that obligation? Does it leave us enough "wiggle-room" to allow us to defer to the judgment of a "licensed professional" who has never seen the patient? Does it leave us the luxury of enough time to await the judgment of an "independent ombudsman" while our patient continues to suffer?

Maimonides reminded us that we should always be "ready to serve all that need me, be they rich or poor, good or wicked, friend or foe." Does "whatever's in the contract" give us leave to tell the patient with chest pain and a negative EKG but without a third party contract, to "come back for a stress test when you have insurance?"

Can the injunction that says, "If doctors wiser than me seek to help me understand, grant me the desire to learn from them" simply be ignored because provisions for a specifically chosen second opinion consultant are not part of "whatever's in the contract?"

The answer to all of these questions, of course, is, "No!" We don't even stop to think about it. But yet we blush when we give our answers, and we lower our gaze ever so slightly to the ground, because all of us, over the past 20 or more years, have allowed ourselves to become bound to contracts with so-called "third party payers." And even as these bindings become ever tighter and more restrictive, the corporate entities with which we deal simultaneously succeed in loosening our ties to the very people to whom we dedicate all of our art and our science—our patients.

All of this has been accomplished not through any deficiency inherent in us, or in our profession. Rather, it has been achieved largely through a legal sleight-of-hand practiced firstly by politicians, and later by businessmen who often helped to write the very laws that eventually passed through the various legislatures at their behest. Yes, there are those in medicine that would boast that "we sat at the table" as this complex fabric of government/private partnership was woven. But in that regard I'm reminded of the comment by businessman and poker player Warren Buffett who once said, "If you've been playing poker for half an hour and you still don't know who the patsy is, you're the patsy." I graduated from medical school in 1964. This medical poker game began in earnest in 1965 with Medicare, and I must tell you that I don't believe that we've gotten any better at it at all!

Of course, long before Mr. Buffett had his say, someone had said, "Fool me once, shame on you. Fool me twice, shame on me!" But like good old Charlie Brown, our profession keeps trying to play in a game devised by others, eternally hoping that our Lucy, manifest in the forms of ever-enlarging government and rapidly expanding corporate financial interests, will play the game fairly just once, and leave the ball where it is long enough for us to have a go at it.

Ladies and gentlemen, that is just not going to happen! Not ever.

- It's not going to happen when you deal with corporations that promise their shareholders improved earnings in future quarters because they intend to close down entire markets of Medicare supplement business that were created in response to "Medicare plus Choice" legislation that they themselves once demanded, but which they now find doesn't yield them sufficient profit. And so they leave these markets, and they leave those previously secure elders without hope of future supplemental coverage.
- It's not going to happen when the very corporations that pushed "Medicaid managed care" legislation walk away from Medicaid when they start to lose money.
- And it's not going to happen when the law allows corporations to report local financial losses on medical care contracts in Connecticut (and thus raise premiums) while concomitantly shipping millions of dollars out of state to the parent corporation because of overriding agreements between the parent and the local subsidiary.

It's also important to note that actions such as I've just described are not only dangerous for our patients and for our profession, they eat away at the very foundation of our government. More than two hundred years ago Thomas Jefferson said, "The end of democracy, and the defeat of the American Revolution, will occur when government falls into the hands of the lending institutions and the moneyed incorporations." What we are seeing played out now was recognized by Jefferson as a risk to the republic at the very outset of the American adventure! We cannot afford to close our eyes to this threat merely because opposing it might cause us financial loss or discomfort.

Finally in this regard, I note that the spread of American-owned corporate managed care to foreign locations such as South America and particularly Brazil,[2] to Asia including India, Thailand, Australia and New Zealand, and even to Great Britain where Columbia-HCA recently purchased five private hospitals in London, is causing a rapid liquidation of existing health-care facilities in some of these countries, along with a resulting rebirth of hostility towards the actions of some American business interests that is reminiscent of the "Ugly American" scenarios of the 1970s.

I also find it interesting that we physicians are being vigorously prodded, by both governmental and corporate interests as well as some entrenched medical organizations, to shift from a scientific-method medicine to an "outcome-based" (51%) system which is more compatible with industrial mass production concepts precisely at the very time that new technologies, in the form of advanced computer programs, internet communications, just-in-time production and mass customization, are allowing for the individualization of industrial mass production! Just as we are starting to custom-order things such as personally configured computers, solitary printings of out-of-date books, and even custom-cut but mass-produced clothing (to say nothing of customized mass-produced cars), we are being asked to bring "industrial efficiency" to the one profession that traditionally has been the most personalized and individualized of all. We are now being characterized as "the health-care industry" just when many other industries are beginning to evolve at least the appearance, if not the actuality, of greater personal service and attention! Am I completely wrong when I am haunted by the nagging suspicion that perhaps it is the finance and insurance industries that need the makeover, and not the profession of medicine?

Yes, I cannot deny that "whatever's in the contract" may bring some degree of short-term financial stability to some health-care institutions. But in the long run it will destroy them, it will destroy their fine teaching programs, and it will decimate the quality of medical care in the neighborhoods that they serve. And it will eventually pull down the medical practitioners in their catchment areas along with them.

Beyond that, there is no doubt in my mind that this destructive wave will spread to institutions of all sizes, in all locations, eventually resulting in deterioration of medical care, teaching, and research, throughout the United States. Here in Connecticut, in 1999 for the first time in recent memory, every single hospital in the state reported a financial loss! This was not an accidental occurrence. It was the inevitable result of what Attorneys Gray and Lewis were describing when they referred to managed care as "the leveraged buyout of medical practice in the

United States" in an article published in Connecticut Medicine in 1995.[3] It is exactly what we should have anticipated. And it is precisely what we should have opposed.

In conclusion then, we can continue down the present path of managed care and corporate medicine. I believe that such a course eventually will destroy ethical medicine as it has been known for millennia, and that it will cause our patients great harm. We can take the government route, euphemistically called universal access, which is really nothing more than communal socialism, but at least it has the virtue of a single set of rules, even if that particular Code of Hammurabi does already run some 110,000 pages, compared to the IRS Tax Code at a mere 44,000. Or, we can show the resilience, the independence, and the creativity that historically have been the hallmarks of American medicine and start once again to reassert our courage, knowledge, and leadership. I believe that it is only by doing the latter that we will be able to rebuild our already-injured medical infrastructure for the 21st century in a way that will be worthy of praise, and of honor.

In sum, we can do a lot better than settling for "whatever's in the contract." But we will have to work at it, each and every day.

I thank you all for having honored me, in the year now passed, with the title of President of the Connecticut State Medical Society. I wish you all the best in the years to come. Goodbye.

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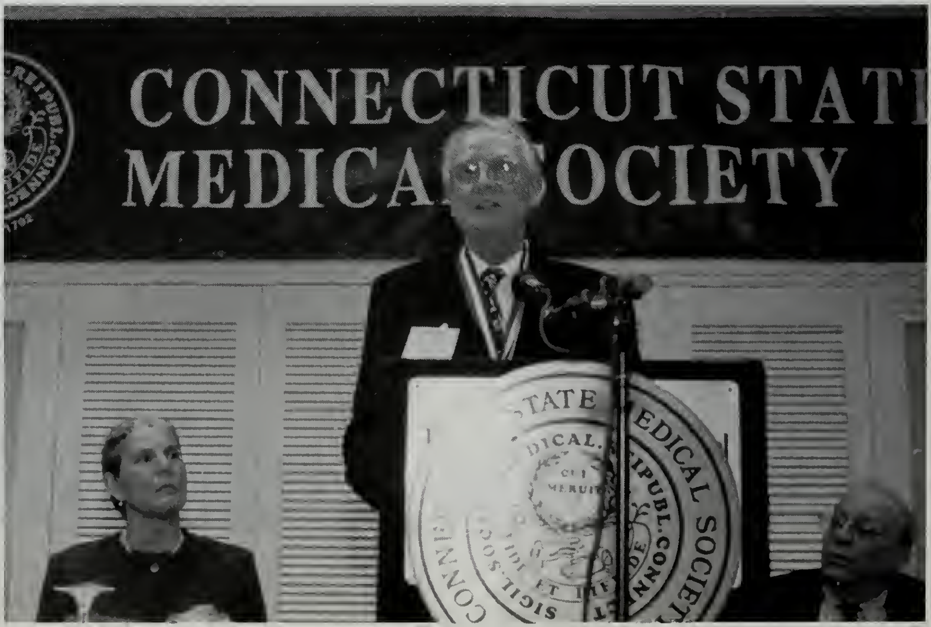
View of the House of Delegates in session.

Dickerman Hollister, Jr., M.D., Chair of the CSMS Council, giving oath of office to the new president, Donald D. Timmerman, M.D., with Mrs. Timmerman looking on.

Dr. and Mrs. Donald D. Timmerman, with Dr. Dickerman Hollister, Jr.



Donald D. Timmerman, M.D. giving his inaugural address.

Address of the New President

CSMS Annual Meeting—House of Delegates
10 May 2000

DONALD D. TIMMERMANN, M.D.

The State of Connecticut Medicine ...

Where are we now? ... Where are we going? ... How are we going to get there? ...

Where are we now?

THE Sea of Adversity that breaks over physicians every day shapes our current frame of mind. Doctors struggle against the tide of an ethical contradiction that is inherent in managed care—that we must be prepared with every sunrise to suspend our medical authority, our professional experience and training, our better judgment and good sense, and most of all our patients' trust—and follow the edicts of an insurer's internal utilization review process.

Each day, doctors greet yet another automatic denial of the intimately negotiated and mutually agreed upon diagnostic or treatment plan. Physicians must recite the daily mantra to patients that their health plan does not provide certain health benefits or longer lengths of stay in the hospital despite their immediate needs or concerns of the family or physician for patient safety.

Doctors are exhausted from the daily confrontation with the current opinion that "physicians must think more about dollars and cents and less about the doctor-patient relationship." The prevailing stream of thinking, according to insurers, is that if you control physicians you will control health-care costs. Doctors have become the root cause and the cure for the current flood of problems in health-care financing.

The basic assumption is that doctors could have prevented this crisis if they had only focused more on the cost of care than on providing care. This, of course, ignores the fact that physician services are responsible for only 20% of the overall U.S. health-care budget. The historical perspective shows that physicians were never in a position to change the forces of medical economics nor the disincentives to economize under indemnity insurance.

Money is the cause of the current crisis in health care and the response from managed care has been—time is money. Physicians are on a treadmill racing to see their daily quota of patients. Case managers are pushing to move our patients out of the hospital as soon as possible even if there are concerns that the patient is not medically ready to leave. Hospital nurses are also running, feeling overburdened and overworked from having to care for too many patients. This means less patient contact time, inadequate personal care, and minimal emotional support. Patients, families, and caregivers must assimilate medical information and care instructions as quickly as possible before they are pushed out the door. After all, less intensive services and reduced lengths of stay mean more profits for investors. Patients and families are truly frightened and confused.

The days of the Joslin Clinic type of comprehensive care involving patient education, instruction, teaching, and old-fashioned hand holding are gone. High quality personal health care takes time. To make a profit you must increase the volume of sick people seen per unit of time. The standard of care is now measured by financial outcomes. Patients are called units and the benchmark is to reduce the cost per unit.

Medical decision-making power is becoming concentrated in the hands of fewer and fewer insurance companies with increasing control over patients and physicians. This power is relentlessly eroding the trust, candor, and communication that is the art of medicine. Physicians complain that their commitment to quality care and patient advocacy is at worst devalued and at best ignored.

Where Are We Going?

Many health experts feel that managed care, as it currently exists, is a doomed experiment because it failed at two major tasks: it failed to keep "costs down" and "consumer satisfaction up." All the fat in the health-care system has been trimmed away and the initial impressive reductions in costs are forever gone. The only cost reduction left is to spoon out the marrow from the bare bones of physician reimbursement. However, a powerful force is quickly emerging to move health care in new directions.

The consumer is fast becoming the driving force behind health care. Consumers are dissatisfied with managed care's attitude of "take-it-or-leave-it." They want a greater say in their health care. Employees want to be responsible for selecting and coordinating their own health benefits; they want to select their own package of copays, deductibles, and doctors out of a menu of health plans. In addition, they want to be treated as valued customers. Consequently, consumers will become increasingly more invested in the reality of health care—that quality and choice cost money. In turn, insurers must accept their fiduciary responsibility to educate consumers on how to select a health plan that fits their individual needs, much the same way investing companies educate employees on the options for retirement planning. Employers and insurers will have to develop a pluralistic, tiered system with multiple options for self-management of employee health accounts. This means that employees are going to have to understand MSAs, catastrophic insurance, and a variety of new health- care financing options. Moreover, employers cannot keep pressuring insurers to reduce costs below realistic market value. This practice has already drained the life force out of 300 physicians' groups in California and Colorado.

Health-care analysts are predicting that within the next three to five years our health-care system will move away from investors and brokers and reinvest in patients and physicians. The increasing pressures in oversight and policing of HMOs' policies and procedures will result in their evolution into a more user-friendly and consumer-oriented approach to health care. Physicians are currently excluded as valued partners in the management of health care. This too will change. Physicians will become equal partners in managing health care resources. The animosity and antagonism will be diminished greatly and true problem solving and resource management will begin. The demonizing of managed care will come to a constructive conclusion. *In the very near future, physicians* will again care for patients with a sense of autonomy and professional pride.

The Campbell Bill, which allows physicians to come together to negotiate with health plans over contract provisions, will deliver medical care back into the hands of physicians and patients. This will restore some balance to a system that currently allows insurers virtually unlimited power over health care. The role of the physician as patient advocate will again have meaning and authority. To quote AMA Trustee, Dr. Donald Palmisano, "Anyone unsure about whether this bill is absolutely necessary need only think of their last experience with an insurance company 1-800 number to be reminded how powerless patients and physicians are when approaching a faceless health plan." The Department of Justice and the Federal Trade Commission will monitor for equity and fairness in contracting as physicians negotiate a Bill of Rights for their own patients.

How Are We Going to Get There?

The demise of the rigid control of health care by the HMOs in the next three to five years will result in a parting of the seas for health care. Doctors will be able to come out of exile and resume their proper role as patient advocates and medical leaders. However, the old ways of medicine are gone. The days of the unlimited expense account are forever over. Physicians will soon have to develop comfort and expertise in new roles and new responsibilities in health care. Health-care consultants are suggesting that doctors must be ready to accept and embrace five roles defining the new paradigm in health care: navigator, coach, specialist, collector, and leader. I will explain these roles briefly.

Navigator—Physicians are, as a profession, computer phobic while our patients are becoming "net smart." Rapidly changing information, advances in science and technology, and daily new medical discoveries are part of the "medical information explosion." The key to current and accurate medical information is accessibility to and familiarity with the web. Physicians in the next five years will have to become health information navigators.

Sometime this year, the AMA/Intel Internet Health Road Show will offer a hands-on workshop for 200 Connecticut physicians on accessing health information of the Internet. I have attended this workshop which is a highly informative experience regardless of your practical knowledge with computers or Internet access.

Coach—Physicians who have a high comfort level with internet health information will be prepared for designing wellness, fitness, and preventive medicine programs. We must become team coaches with a passionate drive to teach primary and secondary health prevention. Every group practice will need to create a multidisciplinary wellness team to develop strategies for improving patient health habits.

Collector—Physicians will need to start collecting their own data that describe the art and science of outpatient medicine—the true last frontier in medical care. This means that the recording technology in the office must be capable of collecting and analyzing each patient encounter. For the first time, having our own data will give physicians tremendous bargaining power while trying to negotiate our own health plan contracts modeled after the Patient Bill of Rights.

Specialist—Collecting data can only be productive if they are targeted to make improvements or to discover system errors that are problematic and costly. Clinical outcomes that result in greater patient satisfaction and improved health are the appropriate quality improvement goals. Physicians will need to be quality improvement specialists well versed in the strengths and weaknesses of guidelines and clinical pathways.

Leader—A team is a group of individuals that can become greater than the sum of its individual members. Physician groups will need physician leaders as team captains, a leader who can facilitate individual and group growth and development. There will be a tremendous need for physician leaders with excellent listening skills and strong organizational abilities. A physician team leader who can foster collegiality, communication, and cooperation.

Collegiality is more than comradery and friendship. It is the expression of mutual respect and trust that is the soul of medicine and the heart of the doctor-patient relationship. The erosion of physician collegiality can affect public trust, the quality of patient care, and of course, physician morale. Capable physician leadership will be in high demand as we break free from the bonds of managed care.

Dr. Herzog and I will be using the resources of the AMA, CSMS, and local academic faculties and even insurers to schedule seminars, develop workshops, and write articles over the next several years on such topics as office computer technology, clinical guidelines, and physician leadership training.

One final note on the future of organized medicine in Connecticut. Organized medicine should be arranged for the greatest strength, efficiency, solidarity, purpose, and service to physicians. The ultimate goal of any organization is to serve its members by preserving, protecting, and promoting professional values, goals, and aspirations. Like the AMA, we need to take a proactive role in ordering a careful examination of our entire house of medicine with the intention of discovering the strengths and weaknesses of our current structure. I will present, at the next Council Meeting, a presidential resolution to form a blue ribbon ad hoc committee to study the organization of Connecticut medicine and make recommendations that will improve services to members, increase membership satisfaction, and develop an action plan to strengthen the Federation of Connecticut physicians—to share a vision of colleagues and partners working in cooperation.

AETNA CHAIRMAN WILLIAM H. DONALDSON SPEAKS AT CONNECTICUT MEDICAL SOCIETY ANNUAL MEETING

Announces Changes to Improve Relationships with Physicians and Access to Care for Patients

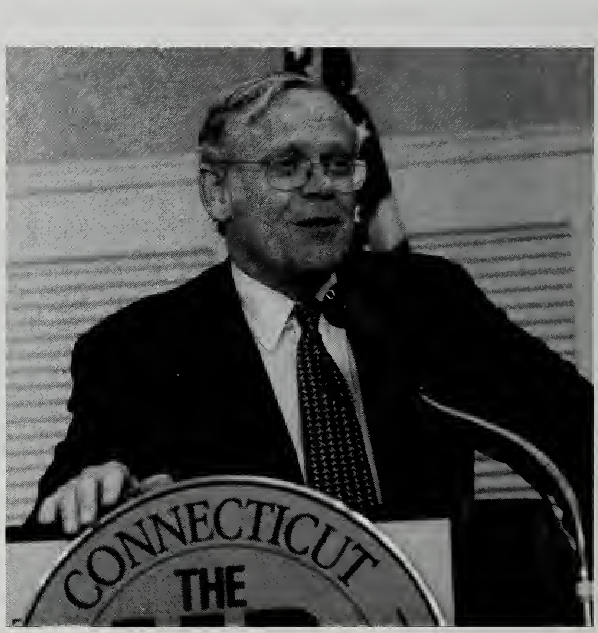
Aetna Chairman and CEO William H. Donaldson announced new programs and options for physicians and patients in Connecticut today at the annual meeting of the Connecticut State Medical Society (CSMS). Among the changes: Connecticut physicians will have the flexibility to opt out of Aetna U.S. Healthcare's all-products policy and those with fewer than 100 HMO members will be paid on a fee-for-service basis instead of capitation. In addition, Aetna U.S. Healthcare HMO members in Connecticut will have access to expanded external review of coverage decisions.

"These changes are just the beginning of our efforts to improve relationships with physicians and, indeed, with all our constituents," Donaldson said. "My fervent hope is that we can form a more respectful and collaborative partnership that makes the system work better for everyone."

"Mr. Donaldson's comments represent a significant first step," said Tim Norbeck, executive director of CSMS. "We believe that this is an indication that Aetna is sincere about wanting to reach out and partner with physicians. We look forward to working with Aetna to achieve this important objective."

The announcement includes the following new initiatives and policy changes for physicians in Aetna U.S. Healthcare's Connecticut network:

- More flexibility for nonhospital-based physicians to choose the type of health plan in which they will participate.
- Fee-for-service payments for independently contracted primary care physicians with fewer then 100 Aetna U.S. Healthcare HMO members.
- Ninety days' advance notice of significant payment or administrative changes.
- Appointment of a CSMS-nominated member to the Aetna U.S. Healthcare Connecticut Quality Advisory Committee.



In addition, the announcement includes the following changes for Aetna U.S. Healthcare HMO members in Connecticut:

- Expansion of external review of coverage determinations to include pharmacy claims, standing referrals, and emergency care. The current program applies to medical necessity and experimental treatment coverage decisions.
- Elimination of referrals for laboratory and radiology services.
- Increased flexibility for women to use Ob/Gyns as their principal physicians.
- The option to use specialists as principal care physicians for members with serious illnesses.

The target date for completing implementation of the changes announced today is 1 January 2001.

"There are compelling reasons for us to work together. We are partners in a system that meets an important societal need," Donaldson said.

"There are major national issues that need attention — including the 44 million uninsured and the increasing health needs of an aging population. There also are new demands for choice, flexibility, and simplicity from consumers, employers, doctors, and hospitals.

"At Aetna, we see a new Web-based model emerging that will give consumers more information and freedom to choose health-care services. This requires a close partnership between health plans and physicians to facilitate the efficient delivery of high-quality, patient-centered care.

"In fashioning our response to the changes, we're starting from ground zero. We intend to work closely with physicians, employers, patients, and government officials on a market-by-market basis as we build our strategy, business models, practices, and operations going forward," Donaldson said.

Aetna U.S. Healthcare is the health benefits unit of Aetna Inc. (NYSE: AET). The company provides a full spectrum of products ranging from health maintenance organizations (HMOs) to indemnity health insurance, and dental, vision, and pharmacy benefits to approximately 29 million Americans, including approximately 311,000 members in Connecticut. Information about Aetna U.S. Healthcare is available at www.aetnaushc.com.

IN MEMORIAM

AIELLO, LOUIS J., Boston University School of Medicine. 1935. Dr. Aiello was a retired radiologist and past chairman of the department of radiology at Norwalk Hospital from 1947 to 1977. Past President of the Norwalk Medical Society. Dr. Aiello was a member of the Fairfield County Medical Association and the Connecticut State Medical Society. Dr. Aiello died 6 May 2000 at the age of 90.

BAIRD, WILLIAM H., Tufts University School of Medicine. 1952. Dr. Baird, a specialist in rheumatology and physical medicine and rehabilitation, maintained a practice in Bridgeport for 27 years. He served as Chief of Medicine at Gaylord Hospital, Associate Clinical Professor of Medicine at Yale University, Professor of Physical and Occupational Therapy at Quinnipiac College, and Professor of Physical Therapy at the University of Connecticut. He was a member of the New Haven County Medical Association and the Connecticut State Medical Society where he had previously served on the Committee on Rehabilitation and the Committee on the Medical Aspects of Sports. Dr. Baird died 1 April 2000 at the age of 71.

BERNSTEIN, MARSHALL I., Philadelphia College of Osteopathic Medicine, 1943. Dr. Bernstein practiced medicine in Bridgeport for more than 45 years. He was a member of the Fairfield County Medical Association and the Connecticut State Medical Society. Dr. Bernstein died 20 March 2000 at the age of 82.

FLYNN, JOHN B., Jefferson Medical College of Thomas Jefferson University. 1944. Dr. Flynn maintained a general practice in Meriden from 1947 until his retirement in 1997. He was a member of the New Haven County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Flynn died 7 April 2000 at the age of 82.

GLENN, JOHN S., Cornell University Medical College, 1965. Dr. Glenn practiced ophthalmology in Torrington. He was a member of the Litchfield County Medical Association and the Connecticut State Medical Society where he previously served on the Committee on Eye Care. Dr. Glenn died 27 March 2000 at the age of 62.

GORMAN, ARTHUR T., Albany Medical College of Union University, 1957. Dr. Gorman practiced medicine in the Hartford area since 1962 and was active on the medical staff of Hartford Hospital. He was a teaching associate at the University of Connecticut School of Medicine and an associate medical director of Avery Heights. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society where he previously served on the Committee on the Medical Aspects of Sports, and the American Medical Association. Dr. Gorman died 18 April 2000 at the age of 69.

HAYES, MARK A., University of Michigan Medical School, 1940. Dr. Hayes practiced surgery in New Haven for nearly 30 years and was a former Professor of Surgery at the Yale University School of Medicine. He was a member of the New Haven County Medical Association where he previously served as an alternate delegate to the Connecticut State Medical Society and the Connecticut State Medical Society where he previously served on the Cancer Coordinating Committee and the Editorial Board of *Connecticut Medicine*. Dr. Hayes died 5 December 1999 at the age of 85.

HOPE-ROSS, PETER E., National University of Ireland Faculty of Medicine University College Cork, 1953. He was a pathologist retired from Park City Hospital. He was a member of the Fairfield County Medical Association and the Connecticut State Medical Society where he served on the Editorial Board of *Connecticut Medicine* during the mid 1970s. Dr. Hope-Ross died 23 December 1998 at the age of 69.

MESSORE, GIACOMO, Facolta de Medicina e Chiurgia dell'Universita di Napoli, Italy, 1950. Dr. Messore was retired from the practice of pathology at Milford Hospital. He was a member of the New Haven County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Messore died February 13, 2000 at the age of 74.

NICHOLS, FREDERICK L., Columbia University College of Physicians and Surgeons, 1942. Dr. Nichols began his practice of internal medicine and endocrinology in Hartford in 1947, retiring in 1991. He served as senior attending physician and secretary of the medical staff at Hartford Hospital and as a consultant of endocrinology at the Institute of Living. In 1969, he served as a volunteer physician at the Mount Silinda Mission Hospital in Rhodesia (Zimbabwe). He was a member of the Hartford County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Nichols died 21 March 2000 at the age of 83.

RHINEHART, JOHN W., New York Medical College, 1955. Dr. Rhinehart practiced psychiatry in Newtown initially at Fairfield Hills Hospital and since 1978 in private practice. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Rhinehart died 15 April 2000 at the age of 69.

STEARNS, COLBY S., Yale University School of Medicine, 1946. Dr. Stearns practiced radiology at the Rockville General Hospital and maintained offices in the greater Hartford area. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Stearns died 31 March 2000 at the age of 78.

WARDNER, LE ROY H., Cornell University Medical College, 1934. Dr. Wardner practiced obstetrics and gynecology at the Hartford Hospital for 35 years. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Wardner died 7 January 2000 at the age of 89.

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Connecticut Medicine

The Journal of the Connecticut State Medical Society

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Vol. 64, No. 7 *The Journal of the Connecticut State Medical Society* July 2000
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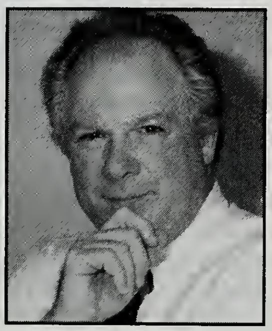

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Diagnostic Value of Cervical Discography in the Management of Cervical Discogenic Pain

ASH MOTIMAYA. M.D., MELIH ARICI, M.D., DANIEL GEORGE, M.D., AND GALE RAMSBY, M.D.

ABSTRACT—We did a retrospective analysis of patients who had a total of 46 cervical discs examined by cervical discography and then evaluated the post-operative results of 14 of the 16 patients who underwent cervical spine fusion at those levels in accordance with the results of our discograms. The average symptomatic period prior to discography was 12 months, and cervical discogenic pain was successfully localized in all 16 patients. Immediately post-cervical discectomy and anterior fusion, subjectively, all 14 patients had good to excellent results, and after a mean follow-up of 6.5 (1.5 to 14) months, 11 patients (78.6%) continued with good to excellent results and three patients (21.4%) developed related pain patterns. Thus, cervical discography, in a "select group" of patients with chronic intractable neck pain but negative or indeterminate imaging findings who are being considered for surgical intervention, can help localize the symptomatic level and potentially benefit the patients by surgical intervention.

Introduction

FIFTY years ago, Lindlom first described the examination and radiographic demonstration of intervertebral disc spaces using contrast medium.[1] Later, cervical discography was described by Smith and Nichols and Cloward to study the disorders of the cervical disc.[2,3] Cervical discography has been used to evaluate patients with chronic neck, shoulder, scapular, and suboccipital pain, though much controversy has existed regarding its diagnostic value. While some authors describe it as a reliable diagnostic tool, others have questioned its validity.[3–11]

Cervical discogenic pain which has several synonyms, ie, "cervical discogenic syndrome,"[7] "painful disk syndrome,"[12] and "degenerative disc disease,"[4] describes a syndrome characterized by chronic intractable pain in the neck radiating to the head, scapula, shoulder, and arms with paresthesias and weakness in the upper extremities.[13] In this study, we hypothesized that discography can be used in the successful management of a "select group" of patients who have symptoms consistent with cervical discogenic pain and have negative or indeterminate imaging findings. We did a retrospective analysis of patients who underwent discography and then evaluated the post-operative results of the patients who underwent cervical spine fusion in accordance with the results of our discograms.

Methods and Materials

The records of 16 patients (12 women and four men; average age 41.8 years) were reviewed. A total of 46 cervical discs, including control levels, were examined for discogenic pain by discography between February 1993 and May 1998. All patients had neck pain with some combination of either pain radiating to the head and/or arms and/or trapezius and/or numbness or tingling in the arms. The symptomatic period prior to discography varied from three to 38 months with an average of 12 months. In all instances: (i) patients were able to pinpoint an incident that triggered their symptoms, (ii) pain was chronic, (iii)

ASH MOTIMAYA. M.D., Resident The School of Medicine, The University of Connecticut Health Center, Farmington; MELIH ARICI, M.D., Assistant Professor, Department of Diagnostic Imaging and Therapeutics, The School of Medicine, The University of Connecticut Health Center, Farmington; DANIEL GEORGE, M.D., Director, Northwest Orthopedics, Sharon; GALE RAMSBY, M.D., Chairman, Department of Diagnostic Imaging and Therapeutics, The School of Medicine, The University of Connecticut Health Center, Farmington.

patients were treated conservatively prior to discography, (iv) MRI results were equivocal or had indicated mild pathology, and (v) patients were referred by, operated upon, and followed up by the same orthopedic surgeon.

In each case, after the patient's history and physical examination findings were reviewed, the procedure was explained to the patient along with potential risks, benefits, and complications, and informed consent was obtained. All patients underwent cervical discography in our radiology suite by one of the two experienced interventional radiologists using the same technique and study interpretation criteria. Sedation with Xanax was used in only one patient who had marked anxiety. This did not interfere with the interpretation of the study. A control level was established for every patient, and in case the first chosen control level produced some of the patient's symptoms, subsequent levels were assessed, until a suitable control level was obtained.

Discograms were performed in patients after they were placed in a supine position with their neck hyperextended and slightly rotated to the right. The left side of the neck was prepped and draped from the level of the mandible to the supraclavicular region using sterile technique. A left anterior oblique approach was used to insert standard 22 gauge spinal tap needles between the trachea and esophagus medially and the vascular sheath of the carotid artery laterally into the appropriate intervertebral discs. The needles were positioned in the center of the discs under fluoroscopic guidance. Next, 0.2 to 1.0 ml of water soluble nonionic contrast material (Omnipaque 180) was injected into the disc space with a 1 cc syringe while recording the patients symptoms and noting the force required to adequately fill the disk. Finally, after obtaining overhead orthagonal views, the needles were removed, and 2.5 mm and/ or 1.25 mm contiguous high resolution computerized tomography (CT) cross-sectional imaging of the involved segments of the cervical spine were carried out. A total of 46 levels were studied: eleven C4-5 levels, seventeen C5-6 levels, twelve C6-7 levels, and three each C3-4 and C7-T1 levels.

Since there are reports in the literature to suggest that cervical degeneration begins at a young age, the radiographic appearance of the contrast material within the disc was not considered an important indicator for discogenic pain, but the concordance of the patient's response with the desired clinical symptoms was considered a positive finding at that level.[4,7,14–15] In some cases, when a patient experienced extreme pain, 0.2 ml to 0.3 ml of Lidocaine was injected into the symptomatic disc space. This rapidly relieved the patient's symptoms and was considered supporting evidence for the discogenic pain. In all cases, patients tolerated the procedure well and there were no complications from this procedure.

Fourteen of the 16 patients had discectomy and anterior fusion with iliac crest bone graft at the symptomatic level(s). Of these, one patient had a fusion of an additional level other than the symptomatic level because of severe degeneration at that level. Of the 14 patients who underwent surgical intervention, nine underwent single-level arthrodesis and five underwent two-level arthrodesis. Of the nine patients, five had a single-level fusion of the C5-6 level, three had a single-level fusion of C6-7, and one had a single-level fusion of C7-T1. Four patients had two level arthrodesis at C5-6 and C6-7 level and one patient had a two-level arthrodesis at C6-7 and C7-T1. A total of 19 interspaces were fused with iliac crest graft in 14 patients. One patient's symptoms improved spontaneously and she did not require surgery and one patient did not desire surgery in spite of her persistent symptoms. The average post-operative follow-up was 6.5 months (range 1.5 to 14 months).

Results

All of the 16 patients (100%) studied by cervical discography had provocative concordant symptomology and were considered positive. Fifteen of the 16 patients (94%) had involvement of C5-6 or C6-7 level; of these, three patients had the pain pattern reproduced at these two levels, one patient had pain pattern reproduced at C4-5 and C5-6, one patient had pain pattern reproduced at C6-7 and C7-T1, and one patient had pain pattern reproduced from a combination of C4-5, C5-6, and C6-7 levels. One of the 16 patients (6%) had involvement at the C7-T1 level.

All 14 patients (100%) had good to excellent results immediately post-operation and felt significantly better compared to pre-operation; of these, 11 patients (78.6%) had good to excellent results several months post operation and three patients (21.4%) did not fair well. Of these three patients, one patient complained of neck pain eight months post-operation even though her pre-operative symptoms of stabbing sharp neck pain and constant headaches resolved; one patient had headache and pain between the shoulder blades at seven months post-operation which had returned, and one patient had pain between the shoulder blades and stiffness in her neck four months post-operation.

Discussion

Our findings are consistent with the findings reported by other authors. For example, in a study of 114 patients, when cervical discogenic pain was localized prior to cervical fusion, Simmons et al,[16] and Simmons and Segil[5] reported 80.8% to 88.7% good to excellent results after cervical fusion. Similarly Whitecloud and Seago,[7] Riley et al,[17] and Siebenrock and Aebi[13] reported 70%, 72%, and 73% good to excellent results respectively of cervical fusion after preoperative diagnosis with discography.

However, when cervical fusion was done without preoperative diagnosis with discography, Siebenrock and Aebi[13] reported a success rate of only 35% to 45% by some authors.[18–20]

Although the differential diagnosis of chronic neck pain with referred pain to the shoulder, trapezial area, arm, and periscapular area, includes primary shoulder problems (such as rotator cuff tears), and suprascapular nerve entrapment by a Pancoast tumor, degenerative lesions of the cervical spine are commonly encountered.[21] It is the innervation of the cervical disc and facet joints that makes them capable of producing radicular type pain; hence, neurological compromise such as that produced by a herniated nucleus pulposus is not required to produce the pain symptoms. Innervation of the cervical discs has been described by Bogduk et al[22] and Mendel et al[23] and pain patterns after disc and facet joint stimulation have been described by Dwyer et al[24] and Aprill et al.[25]

Conservative treatment of degenerative disc syndrome is the first method of choice. It fails to give prolonged relief in 80% of patients even after more than six months of therapy.[26] In such cases, neural compression and significant disc herniation should be ruled out by magnetic resonance imaging (MRI), CT scan, or myelography. If the findings at this point are indeterminate or negative and the patient continues to complain of severe head or neck pain, discography should be performed to determine if the pain is discogenic in origin 27. CT scanning of the injected levels may be of additional value and often suggests the mechanism of pain.

Though we did not encounter any complications, cervical discography is an invasive procedure and may be associated with some complications. Common complications include discitis, post-injection hematoma, and significant headache.[28] While one study reported complications in four out of 31 patients (13%), [29] a recent study of 161 discographic procedures with 269 disc injections reported 2.48% complications based on number of procedures, and 1.49% complications based on disc injections. A large retrospective analysis of 4,400 diagnostic disc injections performed by an experienced radiologist revealed significant complications in only 0.6% of the patients and 0.16% cervical disc injections.[30] Thus, even though complications can be associated with this procedure, in competent and experienced hands cervical discography has a low rate of complications.

From a prospective correlation study of MRI and discography, Schellhas et al[31] concluded that MRI cannot be relied on definitively either to identify painful cervical discs or rule out annular lesions and should be used only to "screen" patients with complaints of head, neck, or radicular pain. Cervical discography represents a definitive test that can be performed reliably and safely. Our study of 46 cervical disc injections resulted in a 100% success rate in symptomatic level localization and a discogram based surgical intervention resulted in 78.6% success rate. These results support the hypothesis that cervical discography is a valuable diagnostic tool that can be recommended to localize the symptomatic level and aid in surgical intervention when spinal fusion is being considered in patients with cervical discogenic pain and negative or equivocal imaging studies.

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Malingering and Symptom Magnification: A Case Report Illustrating the Limitations of Clinical Judgement

MARK THIMINEUR, M.D., TAMARA KALISZEWSKI, PA-C, AND PARDEEP SOOD, M.D.

ABSTRACT—Malingering and symptom embellishment are of concern to specialists in pain medicine. Valid criteria to identify malingering individuals suffering chronic pain do not exist. We present a case of a patient on worker's compensation identified as a malingerer by six different physicians who had evaluated the patient for her chronic complaints. Ultimately, she was found to have a lesion that explained all of her subjective complaints. Physicians should exercise caution in labeling patients suffering intractable pain as malingerers.

Introduction

ISSUES of malingering, secondary gain, embellishment, and psychological overlay often cloud the evaluation of patients with chronic pain. The concept of malingering is a concern to physicians to the point of malingerophopia.[1] In the arena of workman's compensation, accurate medical opinions regarding pathology, physical findings, causation, and disability are essential to appropriate claim management and medical care. The patient with chronic pain may be suspected of malingering if subjective complaints cannot easily be explained by objective findings.

A recent review of the literature regarding malingering among chronic pain patients identified shortcomings in the validity of popular criteria to identify the malingering patient.[2] This case report is a stark example of the axiom that failure to understand the problem is not proof of psychogenecity or malingering.[3]

Case report

A previously healthy 63-year-old Italian-born female fell hard on her buttocks and complained of low back and leg pain. MRI and plain films of the lumbar spine revealed a fractured coccyx. Physical therapy was not beneficial. The treating orthopedist identified symptom magnification and documented a nondermatomal sensory deficit in the left leg, a histrionic personality, pain out of proportion to injury, multiple complaints of left leg numbness, neck and left arm pain, frontal headache, and dizziness. She was referred to a neurologist for further evaluation.

The neurologist noted complaints of back and leg pain and multiple other complaints including left leg numbness, headache, left arm and neck pain, and dizziness. The examination documented "a clear pattern of giveaway weakness" of the left arm and leg, and a nondermatomal sensory deficit in the left leg. There was no further workup. Amitripyline and gabapentin were prescribed but were discontinued due to complaints of side effects. After a third visit, the neurologist opined that there was malingering or symptom embellishment. The patient was referred for pain management, which was denied by the worker's compensation carrier until five months later.

The compensation carrier obtained four independent medical examinations: two by neurosurgeons, and one each from a neurologist and an orthopedist. The independent examiners unanimously concurred that there was malingering or symptom magnification. Three examiners opined that maximal medical improvement had been reached, that no further medical care was necessary, and

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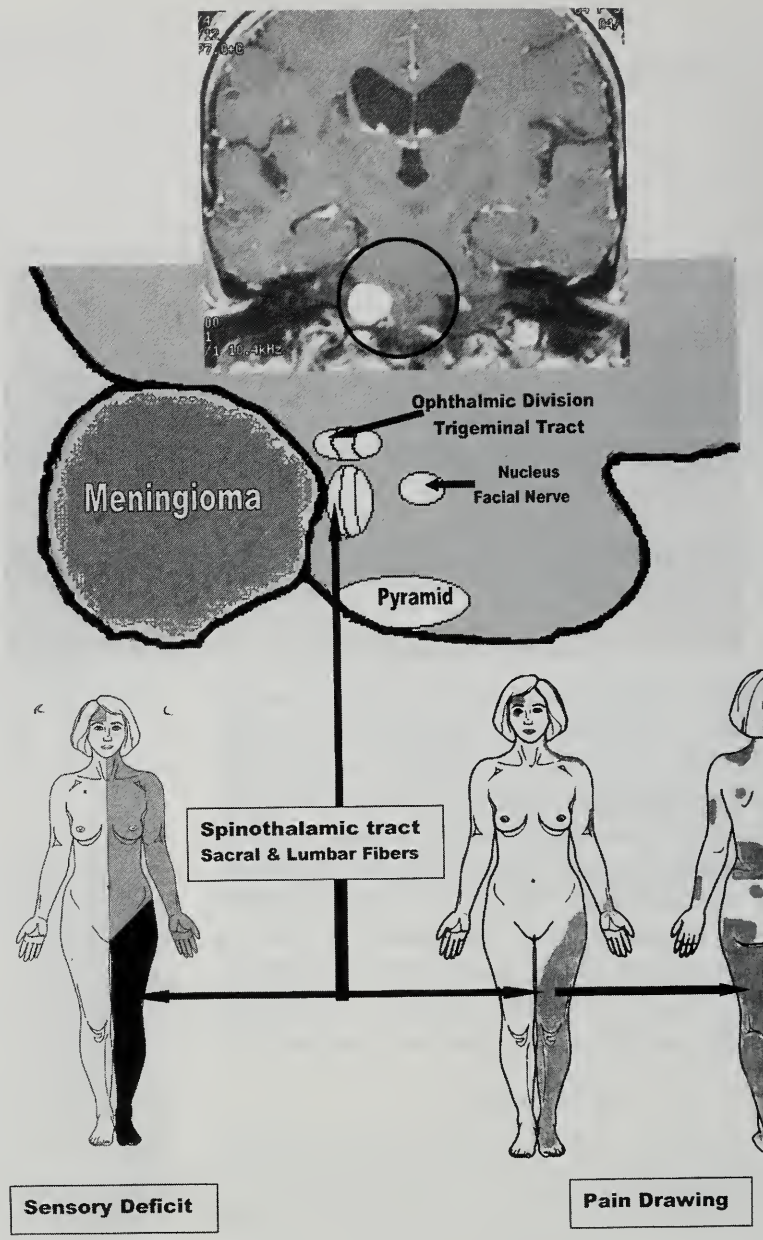
MARK THIMINEUR, M.D., Comprehensive Pain and Headache Treatment Center, L.L.C., Chief of pain management, Departments of Anesthesiology, Griffin Hospital, Derby, Midstate Medical Center, Meriden; TAMARA KALISZEWSKI, PA-C, Comprehensive Pain and Headache Treatment Center, L.L.C.; PARDEEP SOOD, M.D., Comprehensive Pain and Headache Treatment Center, L.L.C., Chief of Pain Management, Department of Anesthesiology, St. Vincents Medical Center, Bridgeport.

recommended return to work. One examiner suggested a psychiatric evaluation. A 5% impairment of the lumbar spine was the most generous disability rating of the four examiners.

Five months after initial referral, she was approved for pain management. Initial evaluation revealed an emotional, histrionic patient. Her complaints were multiple and included a right frontal headache, dizziness, neck and left arm pain, low back pain, and burning pain and numbness of her left leg. Her past medical history, family history, and social history were unremarkable.

Examination showed hypertension (190/90) and left sided cervical and lumbosacral tenderness. A slight drooping of the lower lip on the right was noted. There was giveaway weakness of the left arm and leg, a left pronator drift, diminished amplitude of fine finger movements on the left, brisk but bilaterally symmetrical reflexes, and an equivocal left Babinski reflex. There was a nondermatomal sensory deficit of the left leg to temperature and pinprick. The rest of her sensory examination was difficult to interpret due to inconsistent responses.

Quantitative neurological studies were obtained to investigate the sensory and motor abnormalities. The results suggested a crossed-sensory deficit of the right trigeminal (ophthalmic division) and left side of the body with the most severe sensory deficit in the left leg (Fig. 1). The deficit on the rest of the left hemibody was less obvious. Isokinetic and isometric study demonstrated weakness of the left arm and leg. A brain MRI revealed an old lacunar infarct in the left parietal area, which did not explain the neurological abnormalities. She was sent for a contrast-enhanced MRI, which revealed a right-sided cerebellopontine meningioma exerting a mass effect on the brainstem (Fig. 1).



Discussion

Malingering can be defined as the intentional production of false or exaggerated symptoms for secondary gain.[4] Popular indicators of malingering and embellishment include nondermatomal sensory abnormalities (NDSA's), nonanatomical pain, exaggerated pain behaviors, superficial tenderness in low back pain patients, and "pain personalities."[5–18] A review of the literature regarding malingering and submaximal effort in chronic pain patients indicates the majority of such studies are of poor quality.[2] There are currently no reliable methods to identify the malingering chronic pain patient and no peer reviewed literature on symptom magnification.[2]

This patient appeared as the stereotypical malingerer. There was a potential secondary gain, pain out of proportion to injury, overt pain behaviors, nonanatomic pain, superficial sensitivity in the low back, and a histrionic personality. Because her complaints could not be explained by a minor low back injury, six out of six physicians were convinced there was malingering or symptom magnification. However, the evaluation of persistent pain demands investigation of underlying conditions. When the CNS is specifically investigated in chronic pain patients, abnormalities are commonly encountered.[19–22] Such abnormalities, which include an 11% to 20% prevalence of traumatic brain injury, may partially explain why 38% of chronic pain patients exhibit NDSA's.[6,21,22]

The significant pathology in this patient involved the brain, not the low back. A previously asymptomatic meningioma, which exerted pressure on the right side of the pontomedullary area, became symptomatic after a jarring fall. The patient's sensory deficit (an NDSA) correlated precisely with the pathology, including the apparent monoextremity sensory loss, which was explained by the somatotopic organization of the spinothalamic tract (Fig. 1). Likewise, thermohypoesthesia on the contralateral forehead is explained by greater dysfunction of the laterally placed ophthalmic division fibers of the descending trigeminal tract. The patient's multiple areas of pain corresponded to central sensory loss. The most severe pain (leg) was of classic neuropathic character (burning) and corresponded to the greatest central sensory loss.

Survey data suggest that many physicians believe malingering to be common among patients with chronic symptoms.[1,23] However, studies suggest that the prevalence of malingering among chronic pain patients may be as low as 1% to 2%.[2] Although valid criteria for malingering are lacking, clinical examination and observation is commonly employed to label the malingering patient. These practices may lead to a misdiagnosis of malingering in chronic pain patients with complicated pathologies, such as the case presented here. Subjective complaints in chronic pain patients should be vigorously evaluated and physicians should recognize the limitations of clinical examination in the identification of the malingering patient.

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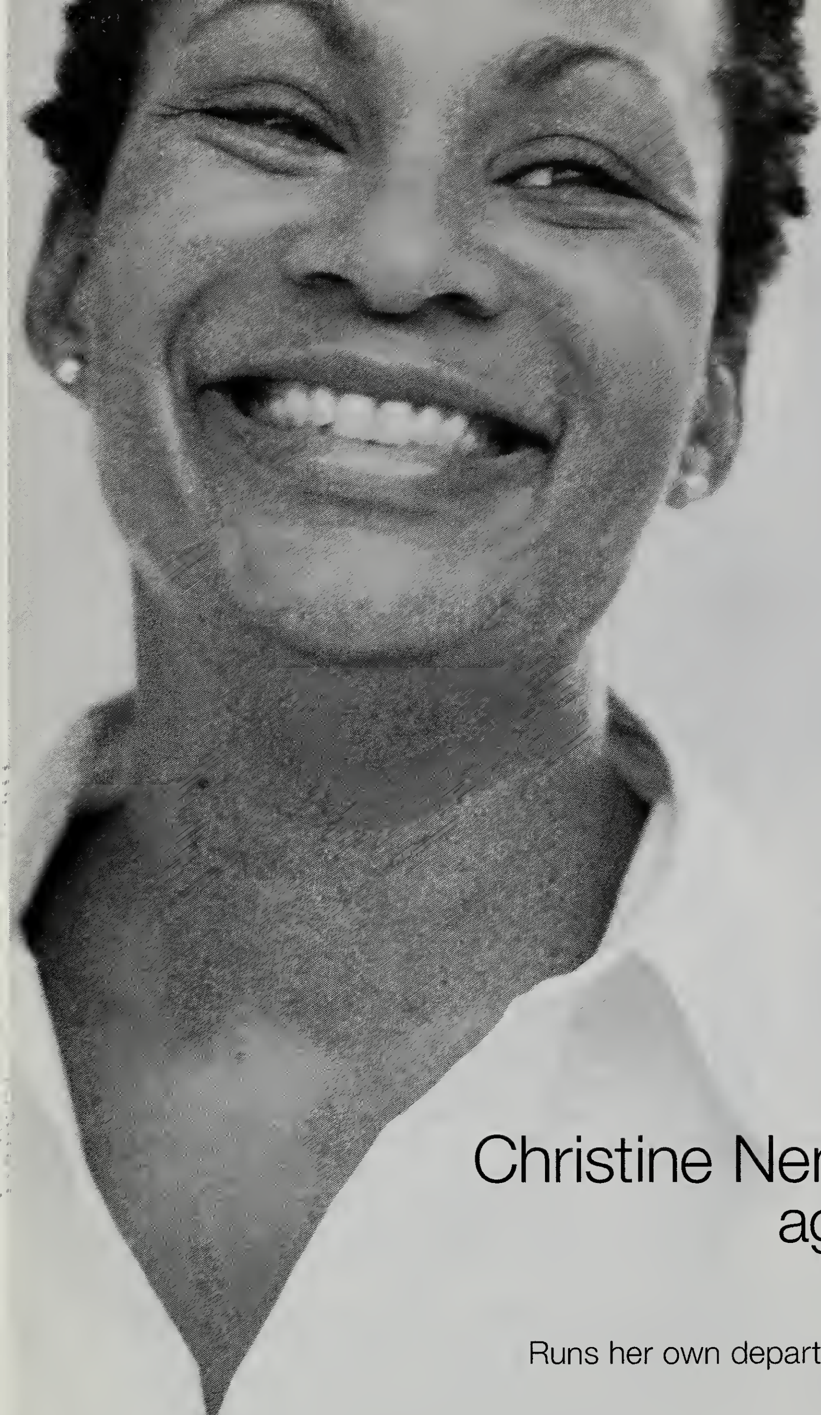

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Physician-Assisted Suicide in Connecticut: Physicians' Attitudes and Experiences

LESLIE CURRY, Ph.D, CINDY GRUMAN, Ph.D., KAREN BLANK, M.D.,
AND HAROLD I. SCHWARTZ, M.D.

ABSTRACT—*Objective:* This study examined aspects of physician attitudes toward physician-assisted suicide (PAS) not fully examined to date: evaluation of risks related to PAS, particularly the presence of depression, and the influence of religious and professionally-based values. *Design:* Anonymous, self-administered mailed questionnaire using Dillman methodology. *Participants:* Targeted sample of physicians licensed by the Connecticut Department of Public Health in 1997 (n=2,805 completed surveys; 40% response rate). *Data include:* Physician and patient characteristics, attitudes toward physician assisted suicide, and confidence in treating depression. *Results:* Religious affiliation, religiosity, ethnicity and medical specialty were strongly associated w,ith views on PAS. Seven percent of respondents had been asked to write a lethal prescription during the past year, 15% of whom (n=24) had complied with at least one request. *Conclusions:* Most respondents expressed concern regarding certain risks associated with PAS, including movement toward involuntary euthanasia and the influence of undetected depression. Findings raise practical issues to be addressed through statutory or professional safeguards if PAS were to be legalized.

PHYSICIAN attitudes toward physician-assisted suicide (PAS) have been examined in both state-specific and national studies.[1–9] A number of personal and professional characteristics of the physician have been found to influence views toward PAS. Age appears to be associated with attitudes in that older physicians are more likely to support PAS.[1,2,5] There is some evidence that female physicians are more likely to express support for PAS[4,5] although data are mixed.[1,3] Experience in caring for terminally ill patients has also been found to be significantly associated with views on PAS, with those having less experience expressing greater support.[4,6] Data have suggested differences among medical specialties, although the role of professional discipline is not well understood. Family and general practitioners appear to be more supportive of PAS than are internists.[5,7] Studies show that psychiatrists,[4] geriatricians, and pulmonologists[1] are also significantly more likely to endorse PAS than other physicians.

While the influence of religion on willingness to participate in PAS has been explored in a few studies, broader issues of religiosity have not been examined in great depth. Religious affiliation is strongly associated with positions on PAS; Jewish physicians or those with no affiliation are more likely to support PAS than are Catholics.[1,2,7] Physicians opposed to PAS are more likely to report being influenced by religious beliefs than those in favor.[4] Those to whom religion is important are significantly less likely to consider participating in PAS.[6] Frequency of prayer has also been found to be associated with views on PAS; physicians who never engage in prayer are more likely to be willing to write a lethal prescription.[1,10]

Most of the proposed guidelines for clinical criteria for PAS require a determination that the patient is competent

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LESLIE CURRY, Ph.D, Director, Braceland Center for Mental Health and Aging, The Institute of Living, Hartford Hospital; Assistant Professor of Medicine, Assistant Professor of Community Medicine and Health Care, University of Connecticut School of Medicine; CINDY GRUMAN, Ph.D., Associate Director, Braceland Center for Mental Health and Aging, The Institute of Living; Assistant Professor; KAREN BLANK, M.D., Senior Research Psychiatrist, Associate Professor of Clinical Psychiatry, Braceland Center for Mental Health and Aging, The Institute of Living; HAROLD I. SCHWARTZ, M.D., Psychiatrist-in-Chief and Vice President, Behavioral Health for Hartford Hospital/ The Institute of Living, Hartford Hospital, Associate Professor of Psychiatry, University of Connecticut School of Medicine, Farmington.

and capable of sound judgment and free of depression or a mental disorder that would impair decisionmaking.[11–14] The importance of depression as a major factor in the desire for death in terminally ill patients has been documented.[15] Despite these requirements for explicit physician assessments, little research has examined the practitioner's knowledge base or confidence in recognizing suicide and depression, or ability to accurately assess risk around PAS requests. One study found that those with less knowledge about suicide and depression were more likely to support patients' wishes for PAS.[5] Self-reported confidence to recognize depression in a patient requesting PAS is limited. Among a sample of Oregon licensed physicians, 28% indicated they were not confident in their ability to diagnose depression in a patient requesting PAS.[2] A study of psychiatrists found that 94% were not very confident that they could, in a single evaluation, determine whether or not a psychiatric disorder was impairing the judgment of a patient requesting PAS.[3]

Given the paucity of data regarding the influence of religious and professionally-based values on PAS, as well as physicians' ability to diagnose depression in this context, the present study explored these factors in greater depth. In addition, the frequency of patient requests for PAS and physician compliance with such requests under current law was measured. Respondents were also asked to anticipate their compliance if PAS were legalized in Connecticut. A qualitative, open-ended question elicited rich and detailed information characterizing respondent's attitudes regarding PAS. This paper reports the baseline descriptive data on all measures of physician characteristics, views on PAS and factors impacting such views, as well as clinical, social and ethical considerations central to the legalization of PAS. Future papers will focus on the role of religious factors, as well as physician experience with and confidence in diagnosing depression in the context of PAS, using both the quantitative and qualitative data.

Methods

Physician respondents.—An anonymous questionnaire was sent to 7,228 Connecticut licensed physicians in September, 1998. A list of licensed physicians was purchased from the Connecticut Department of Public Health. The targeted sample included medical specialties most likely to receive a request for or have experience with PAS. One hundred and fourteen surveys were returned due to wrong address, five individuals were deceased, and another 24 were ineligible (indicated they retired or were no longer practicing medicine in Connecticut), leaving a final sample size of 7,085. A four-wave mailing using Dillman methodology[16] to ensure anonymity and maximize response was used. The actual survey instrument contained no codes or identifiers. Self addressed, stamped postcards were coded and sent together with the questionnaire. Respondents returned the postcard separate from their completed survey. Follow-up was then done at standard intervals, targeting those who had not returned a postcard. The cover letter explained this methodology in detail, together with a pledge of anonymity from the investigators. Also, respondents were given the opportunity to request a summary of the survey results and/or a bibliography of current relevant scientific literature. Financial incentives were not provided. The study was approved by the Hartford Hospital Institutional Research Committee.

Questionnaire.—The survey was developed in consultation with a team of physicians with expertise in this area, and pilot tested on a sample of 397 physicians. A number of refinements were made based upon the analysis of the pilot data; the final version contained 32 forced-choice items in five major domains. Physician characteristics included age, ethnic background, religion, type of physician, and practice setting. Patient characteristics included age, terminal illness, depression, and suicide. Attitudes toward specific medical interventions addressed the following: withholding or withdrawing life-sustaining medical treatment or artificially-delivered food and hydration which may hasten death; prescribing analgesics such as morphine to relieve pain and having the unintended effect of hastening death, writing a prescription for medication which would provide the means for the patient to end his or her life; administering a medication for the purpose of ending the patient's life. Factors influencing attitudes toward PAS examined the role of personal factors; beliefs regarding the physician's role; personal experience; potential effects on medical practice; potential risks; and views on palliative care. Finally, there were several items related to the physician's sensitivity to and confidence in treating depression. The series of questions regarding factors that influence views on PAS were drawn from a prior survey, with permission.[2] The survey concluded with an open-ended question eliciting other general comments to which 909 individuals, or 32.4% of the sample, responded.

Statistical analyses.—Standard univariate analyses were used to describe respondents and their views on a range of aspects of PAS. A series of bivariate analyses were performed to identify association among variables of interest and attitudes toward PAS. Chi-square statistics were computed to assess the statistical significance of these relationships (*$P<.05$*).

Results

Respondent characteristics.—A total of 2,805 completed surveys were returned, yielding a 39.6% response rate. Although the respondent group was fairly representative of the overall sample in terms of age and specialty,

Table 1.—Characteristics of Respondents, Nonrespondents, and Total Sample

	Respondents n = 2,805	**Nonrespondents** n = 4,423	**Total** n = 7,228
Gender			
Male	79%	71%	74%
Female	21	29	26
Age (mean)	51.1 years	—	50.2 years
Specialty			
Family medicine	10	21	17
Internal medicine	42	54	49
Surgery	14	12	12
Psych/neurol	22	16	19
Other	3	18	12

there were some notable differences (Table 1). As compared with respondents, non-respondents were significantly more likely to be female. Non-respondents were also more likely to be family practitioners or internists. It was not possible to compare the groups with regard to age, since age of non-respondents was not available. However, the mean age of respondents did not differ from the mean age of the total sample (as determined from the licensure database).

The demographic and professional characteristics of responding physicians are displayed in Table 2. The mean age of respondents was 51 years (range 26 to 91 years). Most (79%) were male, and the three most common religious affiliations were Catholic (31%), Jewish (26%), and Protestant (21%). Nearly half (46%) of respondents were internists, while one-quarter (25%) were psychiatrists or neurologists. The survey included a series of five questions regarding religiosity and religious observance (Table 2). While one-half (52%) of respondents considered themselves to be fairly or deeply religious, there were lower rates of participating in organized religious observances, such as attending services or reading religious texts. When asked if they considered themselves to be fundamentalist in their beliefs, most respondents (78%) reported they were not.

End-of-life treatment decisions and PAS.—Respondents were asked which of five medical interventions they believed physicians should be permitted to perform if requested by a competent, terminally ill patient (Table 3). The vast majority agreed or strongly agreed that a physician should be permitted to withhold or withdraw life-sustaining medical treatment (91%), withdraw artificially delivered food and hydration (83%), and prescribe analgesics with intent to relieve pain (92%). When asked whether a physician should have the authority to write a prescription for a medication which would provide the means for a patient to end his or her life, slightly over one-third (38%) of respondents agreed or strongly agreed. One-quarter (26%) agreed with permitting a physician to administer a medication for the purpose of ending the patient's life.

Physician characteristics associated with PAS views.—A number of characteristics were strongly associated with views on both writing and administering lethal injections for terminally ill, competent patients (Table 4). Age of physician ($P<.05$) and years in practice ($P<.01$) were positively associated with views on writing lethal prescriptions. There was a relationship between medical specialty and endorsement of both writing lethal prescriptions and administering lethal prescriptions, with psychiatrists and neurologists more supportive and geriatricians less supportive of writing ($P<.05$) and administering ($P<.001$). Measures of religious affiliation or religiosity were significantly associated with views on both activities. Catholic physicians were much more likely to disagree with both writing ($P<.0001$) and administering ($P<.0001$) lethal prescriptions than were Atheist, Agnostic, or Jewish physicians. Those describing themselves as deeply religious or fundamentalist in their beliefs were also much more likely to disagree with writing ($P<.0001$) and administering ($P<.001$) lethal prescriptions. There was a significant relationship between ethnicity and views on both writing ($P<.0001$) and administering ($P>.05$) lethal prescriptions with Caucasian physicians much more supportive than non-Caucasians.

Practice and experience.—A series of questions explored the practice and experience of physicians regarding PAS and patient groups predicted to be more likely to

Table 2.—Personal and Professional Characteristics of Responding Physicians—N = 2,805

Characteristic	No.	(%)
Age (x=51, ±13)		
< 40	513	(19)
40-49	927	(34)
50-59	594	(22)
≥ 60	721	(26)
Gender		
Male	2,210	(79)
Female	574	(21)
Ethnicity		
Caucasian	2,352	(85)
Asian	273	(10)
Other**	148	(5)
Medical specialty		
Internal medicine	1,156	(46)
Psychiatry/Neurology	622	(25)
Surgery	389	(16)
Family practice	270	(11)
Geriatrics	69	(3)
Other	277	(10)
Years in practice		
1–9	631	(23)
10–19	827	(31)
20–29	576	(21)
≥ 30	671	(25)
Religious affiliation		
Catholic	841	(31)
Protestant	576	(21)
Jewish	723	(26)
Agnostic	203	(7)
Atheist	106	(4)
Other	303	(11)
How religious do you consider yourself to be?		
Deeply	308	(11)
Fairly	1,136	(41)
Only slightly	809	(29)
Not at all	517	(19)
Do you consider yourself to be fundamentalist in your beliefs?		
Yes	582	(22)
No	2,052	(78)
How often do you attend religious services?		
Nearly every day (4+ times/week)	63	(2)
At least once/week (1-3 times/week)	497	(18)
A few times/month (1-3 times/month)	504	(18)
A few times per year	1,160	(42)
Never	549	(20)
How often do you read religious texts or watch or listen to religious programs?		
Very often	186	(7)
Fairly often	458	(17)
Rarely	1,276	(46)
Never	859	(31)
How often do you pray?		
Once or more/day	688	(25)
Once or more/week	532	(20)
Less than once/week	823	(30)
Never	724	(26)

†Other includes Hispanic (68), African American (44), Native American (25), and unspecified (11).

request PAS: those with terminal illness, frail older adults, or the depressed (Table 5). One-fifth (20%) of respondents reported having no patients within the past year with a terminal illness. The percentage of patients in their practice over the age of 65 varied greatly, with a mean of 37%. About one-third (38%) of respondents reported over 25% of their patients had significant symptoms of depression. Seven percent of respondents indicated they had been asked by at least one of their patients to write a prescription for PAS within the past year (range of number of requests 1–30; total number of patients requesting = 468). Fifteen percent of those asked by their patients (n=24) had actually complied with at least one request; writing a mean of three prescriptions (range 1–12). When the question was expanded to ask about experience during their entire career, 3% of all respondents (n=83) had actually written at least one lethal prescription, with a mean of 4.5 (range 1–100).

One-third (32%) of all respondents indicated they would write a lethal prescription if PAS were legalized. Of those who would not write a prescription, 49% would refer to someone else, yielding a total of 66% of respondents who would be willing to either write or refer for a lethal prescription if it were legal. Forty percent of respondents believe there is a role of PAS even in systems that provide adequate palliative care.

Patient evaluation.—Five items addressed evaluation of patients requesting PAS (Table 6). One-third of responding physicians reported being very confident in assessing whether a psychiatric disorder was impairing

Table 3.—Attitudes Toward End-of-Life Care and Physician Assisted-Suicide—N = 2,805

	Strongly Disagree (%)	**Disagree (%)**	**Agree (%)**	**Strongly Agree (%)**
Withhold or withdraw life-sustaining medical treatment, which may hasten death	5	4	22	69
Withdraw artificially-delivered food and hydration, which may hasten death	7	10	24	59
Prescribe analgesics such as morphine with the intent to relieve pain and having the unintended effect of hastening death	4	3	24	68
Write a prescription for medication which would provide the means for the patient to end his or her life	37	26	22	16
Administer a medication for the purpose of ending the patient's life	52	22	16	10

the judgment of a patient requesting PAS; only 5% were confident in the case of a patient new to them. Over two-thirds (70%) indicated obtaining a psychiatric consultation was very important. Nearly half (45%) believed it is very likely that a patient requesting PAS might be experiencing a clinical depression, and one-third (32%) thought it very likely that a depressed patient, if treated for depression, would change his or her mind.

Influence of potential risks and considerations on PAS views.—Respondents reported their views were strongly influenced by a number of potential risks associated with PAS (Table 7). Risks that affected their views to a great degree included: the risk that a patient's PAS request resulted from an undetected depression (48%), concerns that PAS might be misused with certain disadvantaged groups (43%), and the risk that allowing PAS might open the door to euthanasia (38%). The risk of administering a non-fatal overdose was a concern for a minority of respondents (15%).

Specific considerations in determining the appropriateness of PAS for a particular patient were explored in a series of questions. The most important considerations were the amount of pain and/or physical discomfort (70% indicated a great deal), the patient's quality of life (61%), and life expectancy (45%). The wishes of the patient's family, financial burdens, and the use of scarce medical resources did not influence respondent views on PAS to any significant degree.

Discussion

This study enhances existing knowledge regarding physician views on PAS in four ways. First, more extensive measures of religiosity were employed than in previous surveys. Not only was religious affiliation and degree of religiosity assessed, but multiple aspects of prayer and spiritual practices. This allows for deeper examination of those elements of religion that may influence physician views (paper in progress). Second, the study gathered new data pertaining to perceptions of risks associated with PAS. Items developed by Lee and colleagues[2] were expanded and refined to address concerns regarding age and cognitive function. Third, the role of depression, its impact on patient requests for PAS, and physician self-assessed confidence to diagnose depression was measured in geater detail than previously reported. Finally, the survey included an open-ended item designed to elicit additional information pertaining to PAS or palliative care.[17]

Findings must be considered in light of several limitations of the study. The response rate is somewhat lower than that of mailed surveys to physicians, which is typically around 50%,[18] including other studies of physician attitudes regarding PAS in the literature.[1–9] While the sample is representative of Connecticut licensed physicians in terms of age, nonrespondents differed in terms of gender and specialty, two characteristics that have been associated with views on PAS in prior studies. Although the findings are not generalizable beyond Connecticut, the state-specific approach to regulating PAS suggests that the opinions of physicians within a single state are most germane to policy decisions regarding its legalization.[14] Finally, although the forced-choice response design limited the detail conveyed by respondents regarding views and experiences, the inclusion of an open-ended item elicited rich qualitative information as to perceptions and values in this area.

Table 4.—Physician Characteristics Associated with Views on PAS—N = 2,805

	Write Lethal Prescription			*Administer Lethal Prescription*		
	Strongly agree/ Agree	**Strongly disagree/ Disagree**	***P* value**	**Strongly agree/ Agree**	**Strongly disagree/ Disagree**	***P* value**
Characteristic	%	%		%	%	
Age (year)			<.05			
< 40	33	67		24	76	
40–49	38	62		27	73	
50–59	42	59		28	73	
> 60	39	61		25	75	
Gender						
Male	38	63		26	74	
Female	39	61		26	74	
Ethnicity			<.0001			<.05
Caucasian	40	60		27	73	
African American	30	71		27	73	
Hispanic	27	74		24	76	
Asian	27	73		17	83	
Native American	25	75		29	71	
Other	50	50		20	80	
Medical specialty			<.05			<.001
Internal medicine	35	65		22	78	
Surgery	38	62		26	74	
Family practice	35	65		26	74	
Psychiatry/Neurology	42	58		31	69	
Geriatrician	28	73		16	84	
Years in practice			<.01			<.10
1–10	32	68		24	76	
10–19	39	61		27	73	
20–29	42	58		27	73	
> 30	39	61		25	75	
Religious affiliation			<.0001			<.0001
Catholic	19	81		12	88	
Protestant	39	61		24	76	
Jewish	51	49		36	64	
Muslim	18	82		12	89	
Hindu	36	64		21	79	
Agnostic	58	42		41	59	
Atheist	67	33		57	43	
Other	36	64		24	76	
How religious are you?			<.0001			<.0001
Deeply	20	81		14	86	
Fairly	27	73		19	81	
Only slightly	47	53		31	69	
Not at all	59	42		41	59	
Do you consider yourself fundamentalist in your beliefs?			<.0001			<.001
Yes	27	73		21	79	
No	41	59		27	73	

Table 5.—Practice and Experience—N = 2,805

During the past 12 months	**No.**	**(%)**
What percentage of your patients had a terminal illness?		
0%	487	(20)
1%	589	(24)
2%–5%	833	(34)
6%–10%	282	(12)
>10%	238	(10)
What percentage of your patients had significant symptoms of depression?		
0%–25%	1,526	(62)
26%–50%	525	(22)
51%–75%	239	(10)
76%–100%	156	(6)
Of these patients, what percentage received antidepressant treatment?		
0%–25%	657	(28)
26%–50%	465	(20)
51%–75%	241	(10)
76%–100%	1,011	(43)
What percentage of suicidal patients suffer from a mental illness?		
0%–25%	239	(12)
26%–50%	206	(10)
51%–75%	189	(9)
76%–100%	1,451	(70)
Uncertain	459	(17)
Have you ever written a prescription for PAS?		
Yes	83	(3)
No	2,707	(97)
If yes, how many times in your career?		
1	29	(36)
2	26	(33)
3	5	(6)
>4	20	(25)
mean	4.5	
Would you write a lethal prescription if PAS were legalized?		
Yes	869	(32)
No	1,836	(68)
If no, would you refer the patient to someone else who would?		
Yes	888	(49)
No	921	(51)

There is growing consensus that the issue of legalization of PAS must be addressed by policymakers, as requests for assistance in suicide are not rare events.[1,9,19,20] In this study, nearly one in 10 responding physicians indicated having been asked by at least one patient to write a lethal prescription within the past year. The prevalence of acceding to PAS requests was 15%, as compared with 3.3% in a national study,[1] 7% in Oregon,[2] and 18%[8] among New England oncologists. One-third of respondents would write a lethal prescription if such practice were legalized in Connecticut, which is similar to prior published studies.[1]

The findings regarding the relationship between physician characteristics and views on PAS confirm and expand on previous research. Age, religious affiliation, religiosity, and medical specialty were associated with positions

Table 6.—Confidence in Patient Evaluation

How confident are you that you could adequately assess whether or not a psychiatric disorder was impairing the judgement of a patient requesting PAS in the case of ...		
A patient you know well?		
	very	35
	moderately	45
	slightly	13
	not at all	8
A patient who is new to you?		
	very	5
	moderately	21
	slightly	28
	not at all	46
How important do you consider obtaining a psychiatric consultation in order to determine whether a psychiatric disorder was impairing the judgement of a patient requesting PAS?		
	very	70
	moderately	19
	slightly	8
	not at all	3
How likely do you consider it to be that a patient requesting PAS might be experiencing a clinical depression?		
	very	45
	moderately	45
	slightly	10
	not at all	.4
How likely do you consider it to be that a depressed patient, seeking PAS might, if treated for depression, change his/her mind?		
	very	32
	moderately	48
	slightly	19
	not at all	1
How likely do you consider it to be that a patient requesting PAS might withdraw his/her request for PAS if adequately treated for pain?		
	very	37
	moderately	47
	slightly	15
	not at all	1

on PAS. Religious variables, in particular, were correlated with individual opinions regarding PAS. Findings indicate that religious beliefs play a significant role in physicians' beliefs. The diversity of religious views and associated discordance in positions regarding legalization of PAS pose major challenges to policy development. Only two prior studies reported findings regarding ethnicity, and found no association with PAS views.[3,10] The breadth of the sample in this study allowed for examination of ethnicity and found a highly significant relationship with views on writing lethal prescriptions.

While it is important to understand the influence of personal and professional physician characteristics on attitudes toward PAS, the implications for developing policy are somewhat limited. Of greater significance are the findings related to patient evaluation and potential risks associated with PAS. The data reported here raise a number of practical concerns that must be addressed through statutory safeguards if PAS were to be legalized. Over 40% of physicians are very concerned that PAS

Table 7.—Influence of Potential Risks and Considerations on PAS Views

	Degrees of Influence on PAS Views			
	Not At All %	Slightly %	Moderately %	A Great Deal %
Potential Risks				
Administering a non-fatal overdose	32	30	24	15
The risk that an accurate determination of the patient's future quality of life cannot be made	7	20	37	36
The risk that allowing PAS might open the door to involuntary euthanasia	17	19	26	38
The risk that PAS might be misused with certain disadvantaged groups	12	18	27	43
The risk that patient's request for PAS may be resulting from undetected depression	5	15	32	48
Considerations				
Patient's expressed wishes, irrespective of medical condition	27	21	21	32
Patient's quality of life	11	8	21	61
Patient's life expectancy	17	13	26	45
The advanced age of patient	29	25	25	21
Expected pain or discomfort of patient	10	4	16	70
Presence of advanced dementia	23	18	26	33
Financial burdens on patient or family	51	30	14	5
Use of scarce medical resources	37	32	22	9
Wishes of patient's family	32	33	24	10

might be used with certain disadvantaged groups. The significant differences among ethnic/racial groups of respondents in their support of PAS may also be reflective of concerns about potential misuse in minority populations. Recent evidence about the Oregon experience, however, suggests that vulnerable individuals (racial or ethnic minorities, poor persons, and those with inadequate resources or social supports) were not more likely to receive prescriptions for lethal medication.[19] Yet it has also been noted that physician compliance with protective safeguards is difficult to assess.[20,21]

Nearly half of the respondents indicated that the risk of undetected depression is of great importance. This substantial percentage reflects an awareness of the well-documented relationship between mental disorders and suicide.[22] The fact that self-reported confidence to diagnose depression is low (particularly in "new" patients) warrants careful consideration of what types of guidelines might protect potentially vulnerable patients, if any.[23] Although many respondents in this study expressed support for the role of psychiatric consultation in determining the patient's ability to make a sound judgment, there are presently no established professional guidelines to assist the psychiatrist in evaluating patients considering PAS.[3] In addition to the challenges in assessing capacity in the context of PAS, assessment of the meaning underlying the patient's request is also highly complex.[24] In Oregon, physicians report making efforts to improve their ability to diagnose depression.[19]

Most respondents do not support voluntary active euthanasia and appear to be attuned to both appropriate considerations for permitting PAS and to the risks that may attend it. Yet there was a notable subset of Connecticut physicians who endorse both PAS and euthanasia who do not share similar concerns about risks and who currently practice PAS, according to their own reports of practice. The polarization of physician views suggests that achieving consensus in the medical community regarding legalization of PAS in Connecticut is unlikely. While challenges to identifying substantial areas of agreement have been enumerated, initiatives to find common ground are underway. A project led by the University of Pennsylvania's Center for bioethics, *Finding Common Ground,* convened a national panel of experts to achieve consensus in terms of guiding the practice of PAS should it become legalized. Papers developed from the panel were featured in a recent issue of the *Annals of Internal Medicine.*[25]

This empirical study represents the largest survey of physicians' views and experience with PAS in the literature to date. Although state-specific, the data describe the frequency of patient requests and physician responses, personal and professional characteristics associated with PAS views, practice and experience factors related to PAS, concerns about risks and considerations, and patient evaluation. This study's findings may be used both to illustrate potential hazards of PAS legalization and to inform efforts to develop policy that is consonant with well-intentioned, yet often inconsistent, views expressed among physicians, patients, and the public.

Acknowledgements

This study was supported by the Department of Psychiatry Education and Research Fund, The Institute of Living: Hartford Hospital's Mental Health Network. The authors acknowledge the contributions of Dr. Linda Ganzini and colleagues at Oregon Health Sciences University, Drs. Robert McCann, Gregory Sachs, and the Connecticut Hospital Association's Physician Assisted Suicide Work Group. Finally, we are grateful to Martha Porter for project coordination and Stefanie Kniep for word processing.

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Long-Term Stenting for Choledocholithiasis

MICHAEL S. BUTENSKY, M.D.

ABSTRACT—Endoscopic biliary sphincterotomy and stone removal has become the standard of care for choledocholithiasis. Surgical intervention has been undertaken when stones cannot be removed endoscopically. In such patients who are high risk surgical candidates, an alternative therapy is the endoscopic placement of long-term plastic stents to allow biliary decompression. Though such stents usually occlude by three months, they may act as a wick to allow drainage of bile into the duodenum. This case report describes a patient with choledocholithiasis who was treated for 19 months with a biliary stent before expiring from unrelated causes.

Case Report

AN 88-year-old female was admitted to the hospital with right upper quadrant pain and fever. The patient had a distant history of a cholecystectomy. During the week prior to admission, she experienced postprandial right upper quadrant pain and nausea. The pain persisted during the day of admission and was accompanied by chills and fever. Past medical history included chronic obstructive pulmonary disease and cardiomyopathy. There was also a history of peptic ulcer surgery.

Physical examination was notable for stable vital signs and a temperature of 39 degrees C. Heart and lung examinations were normal. The abdomen revealed right upper quadrant tenderness. The patient was alert and oriented to person, place, and time.

Laboratory studies included a leukocyte count of 12,700/mm^3, total bilirubin 6.4 mg/dl, direct bilirubin 5.0 mg/dl, alanine aminotransferase (ALT) 512 U/L, aspartate aminotransferase (AST) 623 U/L and an alkaline phosphatase of 311 U/L. An abdominal ultrasound showed a dilated extra and intrahepatic biliary system. The pancreas was not well visualized.

The patient was treated with intravenous fluids and antibiotics. She subsequently underwent an ERCP. The stomach revealed evidence of a Billroth II gastrojejunostomy. The ampulla was normal. The common bile duct was dilated containing multiple large stones (Fig. 1). The patient developed bronchospasm during the procedure. A 10 French, 12 centimeter plastic prosthesis was placed into the common bile duct to allow biliary decompression (Fig. 2). The patient's bronchospasm responded to inhaled bronchodilators.

The cholangitis resolved and she was discharged with plans for outpatient ERCP and clearance of the common bile duct stones. She subsequently declined further intervention and died 19 months later free of biliary complications.

Discussion

Common bile duct stones can be removed endoscopically in 85% to 95% of patients.[1,2] This sometimes requires the aid of mechanical or electrohydraulic lithotripsy via the endoscope. If stone removal is initially unsuccessful, biliary drainage can be established by insertion of a nasobiliary drain or an internal biliary stent. Ultimately, a repeat ERCP can be undertaken to clear the duct of stones. A previously-placed stent can reduce the size of the stones, probably from mechanical trauma.[3] It has also been shown that ursodeoxycholic acid (UDCA) may facilitate extraction of stones in this setting.[4] UDCA appears to soften and decrease the size of stones.

MICHAEL S. BUTENSKY, M.D., attending physician, Saint Francis Hospital and Medical Center, Hartford, Assistant Clinical Professor of Medicine, University of Connecticut School of Medicine.

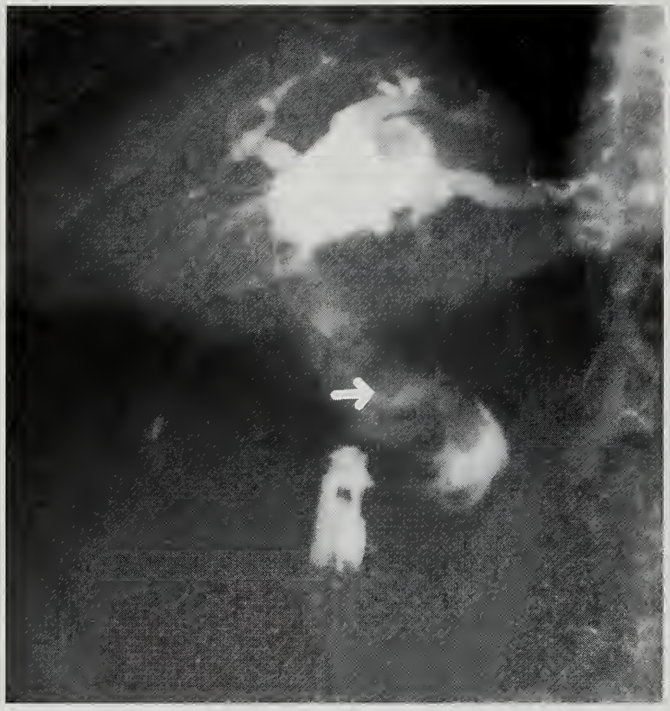

Figure 1.—ERCP demonstrating dilated common bile duct with multiple stones.

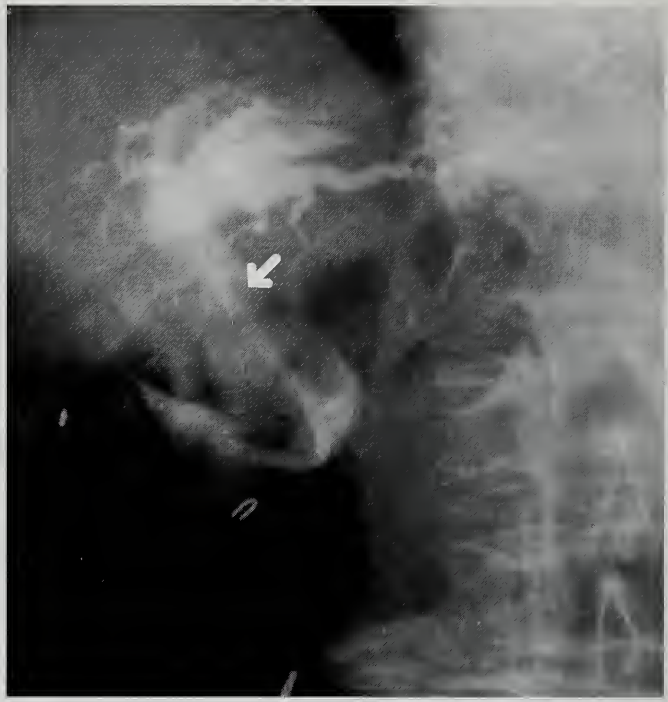

Figure 2.—12 cm, 10 French plastic stent in place in common bile duct.

There is a subset of patients with choledocholithiasis resistant to endoscopic removal. In high-risk surgical patients, several studies have addressed placement of long-term biliary stents. Initial data seemed to suggest that this was a safe approach. Cotton reported 17 patients followed for two to five years (median 39 months).[5] Only two patients required intervention for biliary sepsis while five died from other causes.

Siegel reported on 22 patients followed for a period of three to 36 months (mean 16 months).[6] There were no biliary complications reported. There are other studies that report less favorable results.[7–9] The largest series reported by Bergman studied patients followed for one to 117 months (median 36 months).[9] Forty per cent developed complications related to obstruction of the biliary tree. It should be noted that many patients had a long-term symptom free survival (median 23 months) before complications occurred.

The patient in this report survived 19 months without a biliary complication. Ideally, she should have undergone repeat ERCP in an attempt to clear the common bile duct of stones. Long-term biliary stenting can be considered when further endoscopic or surgical intervention is not possible. It appears to be most advantageous in those patients whose life expectancy is less than two years.

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Optimizing the Bioavailability of Itraconazole

EDWARD M. GRANT, PHARM.D.

Introduction

BECAUSE of its insolubility in aqueous solutions at a neutral pH, itraconazole (IC), a triazole antifungal agent has been associated with extreme variability in inter- and intra-patient oral absorption. Additionally, many medications are known to interfere with the absorption of IC. The combination of variable absorption and numerous drug interactions often translates to inadequate drug exposure and treatment failures. In an attempt to overcome some of the variability in the absorption of the oral formulations, investigators have studied the effects of food, drug interactions, dose dependency, and pH on bioavailability.

Itraconazole Capsule Administration

The administration of IC 100mg capsules with food was found to increase mean peak concentrations (Cmax) ~350% and area under the concentration curve (AUC), a measurement of drug exposure, ~260%. When fed subjects were given 50 mg, 100 mg, and 200 mg, the AUC's were 567 ng hr/ml, 1,899 ng hr/ml, and 5,211 ng hr/ml, respectively (Fig. 1). Therefore, increasing the dose from 50 mg to 100 mg and then from 50 mg to 200 mg increased mean AUCs ~300% and ~900%, respectively, indicating dose dependent or nonlinear pharmacokinetics.[1]

The chemical properties of IC make it necessary for gastric pH to be less than 3.0 in order to have complete dissolution and absorption. One study demonstrated this effect when IC was administered concomitantly with omeprazole, a proton pump inhibitor used to suppress gastric acid secretion. Both the AUC and Cmax of IC were decreased 64% and 66%, respectively.[2] Another study using ranitidine, an H_2-receptor antagonist used to decrease gastric acid secretion, in combination with IC confirmed this effect by decreasing mean Cmax and AUC 50% and 45%, respectively.[3] When the subjects were asked to drink a cola beverage with the IC/ranitidine combination regimen, the pharmacokinetic profiles were identical to the profiles of IC alone. The increased bioavailability of IC when administered concomitantly with either food or cola is related. Food stimulates gastric acid secretion to aid in the digestive process. The increased acid lowers the gastric pH, which in turn promotes dissolution and absorption of the capsule contents. On the other hand, cola, which is very acidic (pH ~2.5), also promotes dissolution and absorption. Therefore, when prescribing IC capsules, the patient should be instructed to take them with food or cola in one dose to maximize absorption. However, if the total daily dose exceeds 200mg it should be divided into two doses, since single doses of this magnitude have not been studied.

Itraconazole Oral Solution Administration

More recently, a new formulation of IC was developed to improve the oral bioavailability, itraconazole oral solution (IOS). Since IC capsules have been on the market for several years and most health-care providers know to administer them with food, it would seem rational to assume the same for the new formulation IOS, however, this is not the case.

In order to make IC into a solution, it is necessary to combine it with the solvent, hydroxypropyl-β-cyclodextrin (HP-β-CD). When combined IC and HP-β-CD forms a water-soluble complex. This effectively increases the absolute oral bioavailability to 55%, a 30% increase over the capsules.[4,5] When the effects of food on the relative bioavailability of IOS were studied, fasted subjects AUCs were increased 43% as compared with fed subjects and steady-state AUCs averaged 29% greater in fasted subjects as compared with fed subjects[6] (Fig. 2). Therefore, when prescribing IOS the patient should be instructed to take the solution on an empty stomach to achieve maximum absorption.

EDWARD M. GRANT, PHARM.D., Pharmacoeconomics/Antibiotic Management Fellow , Hartford Hospital, Adjunct Clinical Professor, University of Connecticut, School of Pharmacy, Storrs.

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Table 1.—Significant Drug Interactions.

Effect	**Drug**†
Decreased absorption of itraconazole	Gastric acid suppressors/neutralizers (Antacids, H_2-receptor antagonists, proton pump inhibitors, Sucralfate)
Increased metabolism of itraconazole	Anticonvulsants (carbamazepime, phenobarbital, phenytoin) Antimycobacterials (isoniazid, rifabutin, rifampin) Nonnucleoside reverse transcriptase inhibitors (nevirapine)
Increased itraconazole levels	Macrolide antibiotics (clarithromycin) Protease inhibitors (indinavir, ritonavir)
Increased plasma concentration of Drug coadministered with itraconazole	Antiarrhythmics (digoxin, quinidine), Anticonvulsants (carbamazepime), Antimycobacterials (rifabutin) Antineoplastics (busulfan, vinca alaloids) Benzodiazepines (alprazolam, diazepam, midazolam, triazolam) Calcium channel blockers (dihydropyridines, verapamil) HMG Co-A reductase inhibitors (atorvastatin, lovastatin, simvastatin) Immunosuppressants (cyclosporine, tacrolimus, sirolimus) Protease inhibitors (indinavir, ritonavir, saquinavir) Others (warfarin, methylprednisolone, buspirone, trimetrexate)

†This list is not all-inclusive.

Itraconazole Drug Interactions

IC has many known drug-drug interactions, most of which are not related to a medications, affect on gastric pH, as previously described. The majority of interactions occur because IC is metabolized through the cytochrome P450 3A4 enzyme system. When this type of interaction occurs serum IC concentrations may increase or decrease or IC may increase the levels of a co-administered medication (Table 1). Therefore, it is important to screen patients for the many drug interactions related to this metabolic pathway.

Conclusions

It is particularly important to reinforce the importance of taking itraconazole capsules with food and itraconazole oral solution on an empty stomach. If a patient fails to respond clinically to itraconazole when the pathogen is known to be susceptible, it should first be established that the patient is indeed taking the medication, that the patient is not taking another medication concomitantly that interferes with stomach pH or itraconazole bioavailability, and that the patient is either taking the capsules with food or cola, or taking the solution on an empty stomach. Once these issues are addressed and the patient is not responding, then it may be necessary to confirm absorption by measuring the serum concentration of itraconazole.

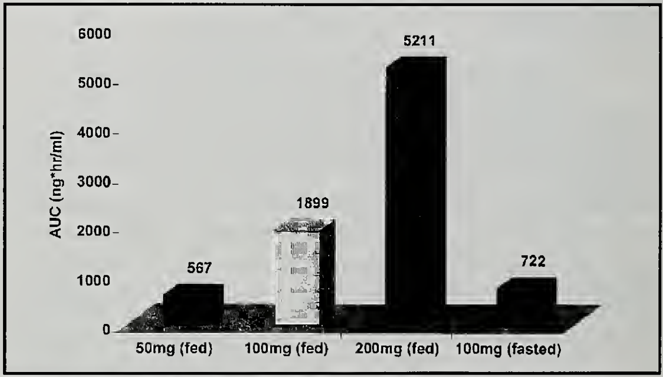

Figure 1.—The effect of increasing itraconazole capsule doses on drug exposure. Note the effect of fed *vs* fasted subjects at the 100mg dosage.

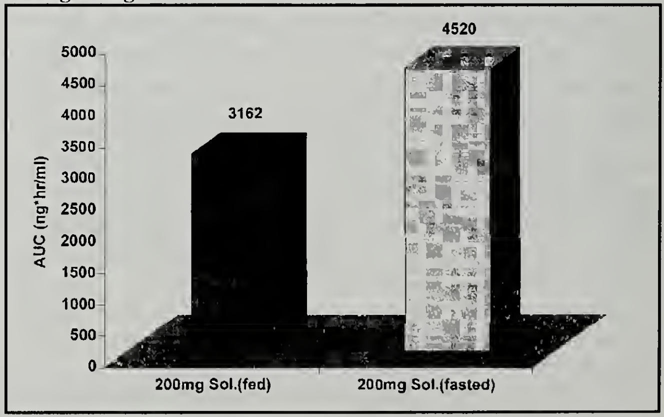

Figure 2.—A comparison of bioavailability between single dose 200 mg capsules under fed conditions *vs* 200mg solution under fasted condition.

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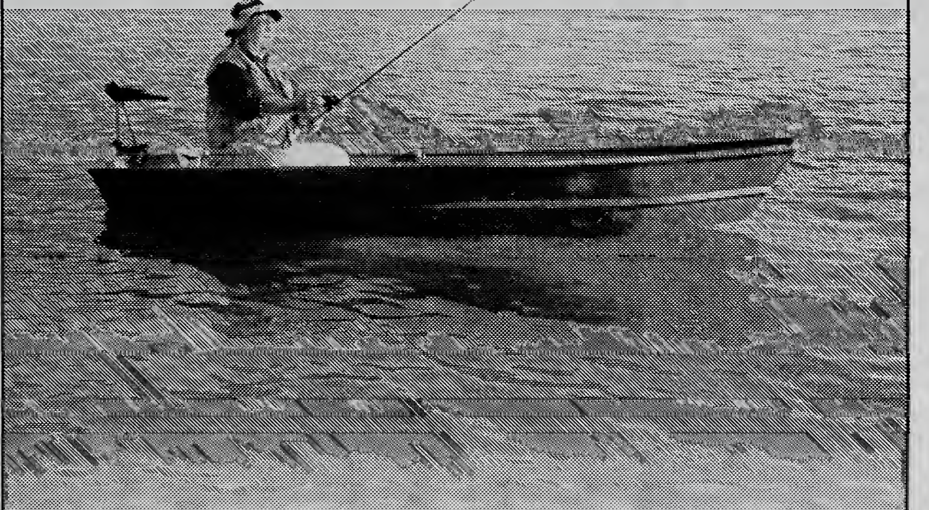

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Treatment of Lyme Disease

Lyme disease is caused by the spirochete *Borrelia burgdorferi* and transmitted to humans by *Ixodes* ticks. These ticks may also carry other pathogens; co-transmission of Babesia and Ehrlichia species has been reported (PD Mitcheil, et al, *J Clin Microbiol,* 34:724, 1996; RB Nadelman, et al, *N Engl J Med,* 337:27,1997).

THE DISEASE—Most human cases of Lyme disease in North America occur between May and August. Erythema migrans at the site of the tick bite occurs in about 80% of infected patients three to 30 days after the bite. Fever, headache, malaise, arthralgias, myalgias and multiple (secondary) skin lesions can also occur. Untreated patients may develop cardiac involvement (usually atrioventricular block), arthralgias, or neurologic disease such as facial nerve palsy or other cranial or peripheral neuropathy, lymphocytic meningitis, pseudotumor cerebri or, more rarely, encephalitis. Late manifestations include arthritis, typically of the knee, and various neurologic conditions, including encephalopathy and polyneuropathies.

DIAGNOSIS—Serologic testing can help confirm the diagnosis, but IgG anti-*Borrelia burgdorferi* antibodies may not be detectable until four to six weeks after the initial infection. If an enzyme-linked immunosorbent assay (ELISA) or immunofluorescent assay (IFA) produces a positive or equivocal result, the specimen should be tested with a standardized Western blot.

PROPHYLAXIS—Since transmission of *B. burgdorferi* is more likely with prolonged tick attachment (more than 24 hours), prompt removal of ticks can prevent the disease (SK Sood, et al, *J Infect Dis,* 175:996, 1997). A meta-analysis of randomized trials of antimicrobial treatment within 72 hours after a deer tick bite in a total of 600 patients found a 1.4% infection rate with placebo and 0% infection after antimicrobial treatment; this difference was not statistically significant (S Warshafsky, et al, *J Gen Intern Med,* 11:329, 1996). A human recombinant outer-surface-protein vaccine (*LYMErix*–SmithKline Beecham) is available for people 15 to 70 years old who live or work in moderate- to high-risk areas and are exposed to ticks frequently or for long periods of time (*MMWR Morb Mortal Wkly Rep,* 48 RR-7:1, 1999; *Medical Letter,* 41:29,46, 1999).

ERYTHEMA MIGRANS—Oral antibiotic therapy shortens the duration of the rash and generally prevents development of late sequelae. Doxycycline is effective in Lyme disease and also in *Ehrlichia* infections; it should not be used in pregnant women or children less than eight years old. Cefuroxime axetil appears to be as effective as doxycycline. Amoxicillin is also effective and is preferred for children and for pregnant or lactating women but does not treat *Ehrlichia*. Macrolides are not considered first-line agents because controlled trials of azithromycin *(Zithromax)* or erythromycin (*E-Mycin,* and others) in patients with erythema migrans found a high rate of clinical failure (PS Loewen, et al, *Drugs,* 57:157, 1999). None of these drugs would be effective for treatment of babesiosis, which requires clindamycin and quinine (*Medical Letter Handbook of Antimicrobial Therapy,* 2000: 106).

NEUROLOGIC DISEASE—For patients with facial nerve palsy alone, oral doxycycline or amoxicillin may be effective. Patients with other neurologic involvement, including meningitis, other cranial or peripheral neuropathies, or encephalitis should be treated with intravenous (IV) penicillin G, ceftriaxone or cefotaxime. The same drugs may be effective for late neurologic complications, including cognitive deficits and polyneuropathies.

CARDIAC DISEASE—Cardiac conduction abnormalities associated with Lyme disease are generally self-limited, but a temporary pacemaker may be necessary. Patients with minor cardiac involvement (first-degree atrioventricular block but PR interval less than 0.30 seconds) can usually be treated with oral doxycycline or amoxicillin. Those with more severe cardiac involvement (including first-degree atrioventricular block with PR interval greater than 0.30 seconds) should receive IV ceftriaxone or penicillin G.

ARTHRITIS—Oral therapy with doxycycline or amoxicillin for one month is usually effective for treatment of Lyme arthritis. Patients who have not responded

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TREATMENT OF LYME DISEASE[1]

		Drug	Adult Dosage	Pediatric Dosage[2]
ERYTHEMA MIGRANS				
		Doxycycline[3] (Vibramycin, and others)	100 mg PO b.i.d. x 21 d	≥8 yrs: 1-2 mg/kg b.i.d
	OR	Amoxicillin (Amoxil, and others)	500 mg PO t.i.d. x 21 d	50 mg/kg/day divided t.i.d.
	OR	Cefuroxime axetii (Ceftin)	500 mg PO b.i.d. x 21 d	30 mg/kg/day divided b.i.d
NEUROLOGIC DISEASE				
Facial nerve palsy		Doxycycline[3]	100 mg PO b.i.d. x 21-28 d	
	OR	Amoxicillin	500 mg PO t.i.d. x 21-28	25-50 mg/kg/day divided t.i.d.
More serious CNS disease		Ceftriaxone (Rocephin)	2 g/day IV x 14-28 d	75-100 mg/kg/day IV
	OR	Cefotaxime (Claforan)	2g IV q8h x 14-28 d	150-200 mg/kg/day in 3-4 doses
	OR	Penicillin G	20-24 million units/day IV x 14-28 d	300,000 units/kg/day IV
CARDIAC DISEASE				
Mild (first degree AV block)		Doxycycline[3]	100 mg PO b.i.d. x 21-28 d	
	OR	Amoxicillin	500 mgPOt.i.d.x21-28d	25-50 mg/kg/day divided t.i.d.
More serious4		Ceftriaxone	2 g/day IV x 14-21 d	50-75 mg/kg/day IV
	OR	Penicillin G	18-24 million units/day IV x 14-21 d	300,000 units/kg/day IV
ARTHRITIS5				
Oral		Doxycycline[3]	100 mg PO b.i.d. x 28 d	
	OR	Amoxicillin	500 mg PO t.i.d. x 28 d	50 mg/kg/day divided t.i.d.
Parenteral		Cehriaxone	2 g/day IV x 14-28 d	50-75 mg/kg/day IV
	OR	Penicillin G	18-24 million units/day IV x 14-28 d	300,000 units/kg/day IV

1. The duration of treatment is not well established. Relapse has occurred with all of these regimens; patients who relapse may need a second course of treatment. There is no evidence that either repeated or prolonged treatment benefits subjective symptoms attributed to Lyme disease.
2. Should not exceed adult dosage
3. Neither doxycycline nor any other tetracycline should be used for children less than eight years old or for pregnant or lactating women.
4. A temporary pacemaker may be necessary.
5. In late disease, the response to treatment may be delayed for several weeks or months.

to oral treatment may respond to a second one-month course of oral therapy or to IV therapy with penicillin G or ceftriaxone. For patients who develop refractory arthritis of the knee, arthroscopic synovectomy may be helpful.

CONCLUSION—Early Lyme disease responds to antibiotic therapy in almost all patients. For late Lyme disease, few controlled trials comparing different regimens have been published. Since the incidence of infection after a tick bite is low, and treatment of early disease is effective and generally prevents late sequelae, Medical Letter consultants do not recommend prophylactic treatment of tick bites.

Sigmund Strochlitz—CSMS Distinguished Citizen Award Honoree

Address by Mr. Sigmund Strochlitz, recipient of the CSMS Distinguished Citizen Award, presented by outgoing president Stephen Katz, M.D. at the Annual Meeting of the House of Delegates in Meriden on 10 May 2000.

Thank you very much, Dr. Katz. I am very pleased that you have bestowed on me your most distinguished award. I appreciate it very, very much. I am also pleased to have with me today my daughter, Dr. Romana Strochlitz, my son, Dr. Raphael Strochlitz Wurzel, and his wife Lois Strochlitz-Wurzel.

At my age perhaps it's good to be surrounded by doctors. There were not too many physicians in my Polish home town. We looked up to them. They were among the most respected people in town. We expected them to have high standards, professional and personal.

The same held true in Germany until physicians allowed themselves to be seduced by Nazi ideology. And seduced they were. German physicians had one of the highest rates of Nazi party membership of any profession. They were members of the SS Troopers serving in the most brutal and vicious units. They served eagerly in every extermination camp. They demanded the removal of Jews from medical school faculties and all professional organizations. I remember.

I remember the Nazi physicians in Auschwitz constituting themselves to God, their eyes betraying hate. They performed selections on Jewish prisoners sending children, their mothers, and older people to be killed immediately and permitting young and healthy adults temporary reprieves, usually as slave labor. They were involved in coercive sterilization and the murder of impaired children and adults. Their justification for embracing selective murder was, and I quote, "We must destroy life unworthy of life."

They conducted medical experiments upon Jewish inmates, including young children, causing terrible pain and death. They sterilized healthy normal people to experiment with techniques. Twenty-five hundred prisoners died in Buchenwald after doctors infected them with typhus.

In another experiment they submerged concentration camp inmates in near freezing waters for hours, day after day, so that the Air Force could design improved survival equipment. Doctors! Doctors who should devote their lives to healing became torturers and murderers dismissing the sacred Hippocratic oath. I am not aware of any other instances in history where doctors were mass killers.

How does the transformation from healer to murderer take place? There are no easy answers, but there are many questions. Think about those German doctors and think about yourself and your colleagues. What would it take? What would it take to turn members of the Connecticut Medical Society into physicians dispensing suffering and death? Impossible? Today I can only hope. Hope that you will retain the highest standards necessary in medicine and that even in difficult times you will combat evil and not ever embrace it.

In August of 1939 the Nazis came to my city, Bendzim, surrounding the Jewish quarters, setting fire to the synagogue and the houses adjacent to it. Any Jew who tried to escape was shot on the spot. As the flames engulfed the synagogue several Jews rushed in led by Frank Schlesinger, his son and son-in-law. They fought their way to the Holy Ark and each succeeded in rescuing two Torah scrolls, one in each arm. When they emerged from the burning synagogue they were shot by the Nazis. This was the beginning of the end of the Jewish population in the city of Bendzim, the city of my birth.

The feeling of gloom that followed the shooting and burning of our synagogue was heightened by subsequent events. Day after day soldiers were arrogantly storming into Jewish homes evicting everybody and confiscating everything. The Nazis were taking everything as though it belonged to them. Terror stricken families were hiding in ghetto cellars. Children were running with priceless treasures, a potato or two, a crumb of bread. We felt like animals surrounded by hunters. And then came September 1943.

It was a bright, cloudless, windless Sunday morning but the air was reverberating with tension. The Nazis had surrounded the ghetto. There was no way out. The hostile or at best indifferent world outside was of no help. Five hundred years of recorded Jewish history was coming to an end. We sensed it and there was nothing we could do about it. We were alone, trapped, defenseless, helpless and we knew it. On that fateful day I became a prisoner on the planet Auschwitz.

Auschwitz, to quote from Elie Wiesel, was "a creation inside creation." I saw chimneys vomiting clouds of human flesh and everything in me was invaded with darkness. I touched the air contaminated with the stench of human flesh and chills ran down my spine. I walked, perhaps together with the Angel of Death or ashes of people who were healthy and alive in the morning, and didn't even feel it. I was already orphaned and didn't even cry. Did the Nazis rip out my heart? I was told I was dead, and perhaps I was, watching endless lines of men, women, and children on their way to death reciting the Kaddish, the prayer for the dead. Kaddish for themselves.

I survived 11 months of Auschwitz and three other camps. Forgive me for not sharing with you the daily fights to remain human under inhuman conditions, being exposed to the cruelty of the executioners. The nightmare that lasted six years came to an end April 15th, 1945, Liberation Day. It is anchored in my mind and even compared, by survivors who did not lose faith in God, to the stories of biblical salvation, Yes, you could feel that way on Liberation Day. And yet remembering those dreadful years I must say that it wasn't heroism. It wasn't initiative or intelligence that helped me to survive. No, it was not. I was blessed with inner strength; blessed with luck, sheer luck, that became my companion during and after the war.

Most of the Germans on that day were no longer there. The watch towers were empty. There was no head count or line up. The sounds of exploding shells seemed to be closer and closer. A single tank rolled into the camp. The firing stopped and the tank was viewed as a friend. I saw an unfamiliar emblem. I saw armed men, but in different uniforms, who came not to kill but to liberate us. To free us. My heart was pounding trying to approach the tank. My legs would not carry me. I was only able to stretch out my hand in an attempt to great the liberators. They seemed bewildered, confused, even restrained, their rough and boyish faces in a state of suspension. Their eyes wondering in disbelief not really knowing what to do, and we, the inmates, expressing as much as we could our gratitude to those who gave us back our lives.

The first day of freedom filled my soul with joy seeing some of the murderers—scared, frightened, and begging for life. The rulers of Europe in an instant were transformed into helpless and obedient slaves, And yet my joy after several days was tempered, expecting that the world for me would never be the same; wondering if anything could ever rule out my past. I was afraid that the scars of Auschwitz would remain with me forever and the place where it occurred and the stories that I would have to tell would put me either in a permanent state of depression or in doubt of the goodness of human nature. I felt lost, and the tattooed number on my arm was burning like a sore. People were celebrating a great victory, and rightfully so, but where would I find peace of mind? Where would I find a place called home? My home, my world went up in smoke. I should have been ecstatic, but I felt strangely empty. For me, as well as for other survivors, this was not a happy ending. It was more the beginning of an effort to cope with personal tragedies and with the pain and anguish of being an internal witness to the greatest tragedy that befell the Jewish people. It was like the beginning of something unknown, something disturbing, something that I would perhaps be unable to cope with, being condemned to wander among millions of dead, six million unfulfilled dreams, broken stones six thousand to six million years old. Would I be able to go on living and be completely free of feeling guilty that I am here because a friend or maybe someone unknown died in my place? That was on my mind days and weeks after, or perhaps years after. And yet, I began dreaming, hoping, and praying that perhaps one day I would end up in the United States.

My prayers were answered. I came to the United States in 1951. My future, the future of my family, my outlook on life took a dramatic turn. I was not angry or bitter anymore. I sensed that here I would be able to rebuild my shattered life, build a family, become a businessman, eager to contribute to the wealth of my adopted country, and to help in a small measure repay the privilege of becoming an American, the country that I knew would give me freedom—freedom to move, to act, to be myself, freedom to dream and to turn those dreams into reality. It is here in the United States that for the first time in my life I felt that I belonged, and could be part of this marvelous society that has proven again and again that it moves to act wherever and whenever abuses of human rights and threats to the democratic way of life require action.

America, America your love has built a more humane world. It is now 55 years since I was liberated from the kingdom of night. I am not a young man anymore, but I am filled with wonder. Why was I chosen to survive and be the guardian of secrets entrusted by the dead? Why have I been given so much time to savor love, friendship, and laughter, granted to live in the greatest country in the history of humankind? Why was I blessed to build a family and adopt three children, see grandchildren and great grandchildren grow and be proud of them while so many millions of my people were denied the right to live? Was it an inner strength or luck?

In the book "The Beggar of Jerusalem," Professor Elie Wiesel describes the following imaginary scene: An SS unit is rounding up the Jewish inhabitants of a town and killing everyone. The people are petrified, but the master of Yeshiva, the highly sophisticated religious school, is leading the group and shouting, "The hour has come, sing my children. Sing as you have never sung before. Sing with all your soul and let our songs be heard from one end of the world to the other. Sing my children so in the end it is our songs that will bear witness for us." All the people, preceded by the master, toppled into the grave. All save one who stood standing and singing. "Why don't you die?" The Nazi lieutenant shouts. The disciple looks at him saying, "You must understand, I am the last, the very last survivor." "Why do you want that much to stay alive?" "I don't want to stay alive." "Then why do you refuse to die?" "You don't understand. I want to die. I cannot die." The officer tries to strangle the disciple and he fails. He draws his revolver and shoots. He fails. The killer has no more bullets. Shaking his head he falls on his knees and speaks to him the way one speaks to a conqueror, a victor shrouded in mystery. "You are humiliating me. You are taking your revenge. One day you will regret it. You will speak but your words will fall on deaf ears. Some will laugh at you, others will try to redeem themselves through you. You will try to incite people to learn from the past and rebel, but they will refuse to believe you. They will not listen to you. In the end you will curse me for sparing you. You will curse me because you will profess the truth, but is it the truth of a mad man?"

I was talking today about sadness, I would rather talk about joy, solidarity, and happiness. I want to tell young people that there is something in life worth living for, that there is the best and the worst. I wager on the best. Surviving is not essential. In spite of it all, every human being is precious. He is my brother, my sister, myself. Thank you.

Sigmund Strochlitz

Mr. Strochlitz was born in Poland and survived several concentration camps, including Auschwitz during World War II. He attended the University of Cracow in Poland and came to the United States in the early 1950s. He was appointed by former President Carter to help charter the U.S. Holocaust Memorial in Washington, D.C. He is a member of the U.S. Holocaust Council, where he received a mandated mission to organize official Holocaust observances in every state in the U.S. A close friend of Mr. Elie Wiesel, he was named the second recipient of the Elie Wiesel Remembrance Award and is a member of the Board of Directors of the Elie Wiesel Foundation for Humanity.

**Dr. Michael M. Deren,
Dr. Romana Strochlitz,
Lois Strochlitz-Wurzel,
Dr. Raphael Strochlitz Wurzel, with the honoree, Sigmund Strochlitz.**

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Commentaries

Euthanasia, Ethics and Socratic Dialogue

> "So long as I breathe and have strength to do it, I will not cease.... Esteemed friend, citizen of Athens, the greatest city in the world, so outstanding in intelligence and power, aren't you ashamed to care so much to make all the money you can, and to advance your reputation and prestige—while for truth and wisdom and the improvement of your soul you have no care or worry?"
>
> Plato, "Apology," in Vlastos, *The Philosophy of Socrates*[1]
>
> "There are no moral phenomena at all, only moral interpretations of phenomena...."
>
> Nietzsche, *Beyond Good and Evil*[2]

In "Bioethics by Poll?" (*Conn Med* 2000; 64:169) Dr. Massey expressed dismay with his "unsatisfactory Socratic dialogue" with a group of medical residents on the topic of "physician-assisted suicide."[3] In *The Myth of Sisyphus* Albert Camus said "There is but one truly serious philosophical problem, and that is suicide. Judging whether life is or is not worth living amounts to answering the fundamental question of philosophy."[4] Camus argued against suicide: it is better to rebel against a meaningless universe and thereby exert one's freedom, even in the face of futility. Defiance is the existentialist's answer.

Socrates pressed his fellow Athenians to the wall, his language a dagger. By piercing questions and calculated opposition he drew them out. Why had his opponents in argument neglected their souls? Why did they succumb to common opinion rather than submit to self-examination? Why were they deaf to the inner god, the voice of conscience that Socrates heard? Socrates was their moral midwife, assisting them to deliver newborn truth. Truth is not easily gotten. Labor and delivery are painful. Pain provides emotional cement. Truth was what remained after Socratic demolition. When the smoke cleared Socrates had devoted followers like Plato and enemies who would seek his death.

Writing nothing, Socrates lived his philosophy. His sheer charisma and his radical ideas, lived right to the end, held young Plato spellbound. Plato made Socrates immortal, revealing his transforming thought and critical method across the ages. Does the rational-moral confrontation of Socratic method illuminate the modern issue of physician-assisted suicide? Rigorous self-examination is implicit in Socratic method: "Know thyself" is not an end-all but a begin-all. No dialogue without monologue. The urge to interrogate others on moral matters is predicated on preliminary self-interrogation. Socrates could not neglect his own soul and then accuse others of the same sin.

Is physician-assisted suicide ethical? Legislation may make it legal: it cannot make it moral. Should any suicide be assisted? Is assisted suicide still suicide? How does physician-assisted suicide differ from active euthanasia or mercy killing? Does complicity cross the boundary into homicide? Suicide is a private affair. Physician-assisted suicide entails a close dialogue leading to the mutual consent of two parties, patient and physician, to the merciful termination of life under volitional conditions of comfort and care. But this is theoretic. In real life it doesn't happen this way. What dialogue occurs is not Socratic or confrontational. The terminal patient is virtually powerless before any dialogue begins. The physician possesses the power of knowledge and the power of treatment. The physician cannot be coerced into participation in physician-assisted suicide. Indeed the Hippocratic Oath provides no support for joining such a venture.

Pain, suffering, and depression can be unendurable. Upper-class Greeks in the age of Socrates and Hippocrates used suicide as a rational escape from the relentless tears of life, using hemlock, a poisonous plant with small white flowers. Slaves were not eligible. In our modern scientific age of extreme technology cancer-ridden patients hoping for cure too often find themselves trapped. They have endured the unendurable only to awaken each day to a world of pain and limitation, their hopes destroyed. Suicide seems a rational option. Why not enlist the caring physician? The MD has the means. Surgery, radiation and chemotherapies, all medical recommendations, have failed.

Oncology is medicine with a saddened heart. Drugs that produce analgesia when pain is severe also reduce mental capacity. The morphine drip is turned up while family gathers at the bedside, knowing that treatment of pain may bring with it final release. Dialogue between patient and physician may be minimal. The topic of physician-assisted suicide never comes up for discussion. Death occurs as a byproduct of metastatic disease, marrow depletion, weakness, anemia, anorexia, pulmonary suppression, and morphine. No Socratic dialogue has occurred, no searching of the soul. All philosophy has been reduced to utility. This is the last paradox of contemporary medicine: when treatment is finally worthless all is reduced to utility.

Most Americans die in hospitals, often hooked to the latest machinery but doomed like fish out of water.[5] The technological extension of hopelessness in intensive care units is light years distant from the home of loved ones gathered for farewell. Intensive caring seems absent. Substantive dialogue occurs between physicians exchanging technical data, rather than between doctor and patient.

A nurse enters the ICU cubicle to check the tubes and wires. She was informed by the previous shift-nurse. Wife or husband are instructed to leave. Visiting hours are over. Is the companion of my life, the guardian of my soul, a visitor?

My father survived an ICU. I was glad to visit him in a step-down unit, the danger past. My father and I talked about ordinary things, a dialogue between friends. Then he wished me goodbye. Thirty minutes after I left he was dead, probably from sudden pulmonary embolus. His doctor was uncertain. Chance permitted our visit together. I was his last visitor. Had I arrived an hour later, I would have been too late. When I left I believed he was safe.

The complicity of others blurs the solitary nature of suicide. Physician-assisted suicide seems more than private. Can public homicide become the means of calculated suicide? This reciprocity at first seems hard to envision. Socrates was killed by State-assisted homicide, by legal democratic process. Is State-assisted homicide ethical? Some argue its immorality, although execution remains popular in Texas and other places. The death penalty for convicted murderers seems just. But is justice served when the State condemns killing, yet kills? Irreligion was a capital offense in ancient Athens. Socrates was accused of irreligion and corrupting youth with his radical ideas. His crime was contact with his inner god, to the neglect of State-approved polytheistic worship. His conscience prompted him to teach young men to think for themselves, and even to argue with their fathers.

Others, like Protagoras and Anaxagoras, were indicted on similar charges. Neither suffered the penalty of death. Socrates refused to permit his wife and sons to plead before the Athenian court for mercy, the common practice of the day. He refused to permit his friends to exert their influence and arrange his escape. Socrates refused to leave Athens, as Aristotle later did "to prevent a second crime against philosophy."[6] Socrates told his judges that in view of his enlightened contributions to the Athenian State in peace and war he ought to receive the State pension prescribed by law, reward rather than penalty. This irony was not lost on his judges. He told his friends not to weep for him, since he was ready to meet Homer and the Greek heroes, if that is what death allowed. Socrates made it clear he was ready to abide by the will of law. A jury of 500 Athenian citizens condemned Socrates to death by majority vote. He took hemlock in 399 BC, becoming our Father of Ethics four centuries before Christ. After his execution the State reversed itself and prosecuted those responsible for bringing Socrates to trial. The Athenians built a statue of Socrates in the public square. For two thousand years philosophers from Plato to Spinoza modelled their ethical thought on his principles. Plato said Socrates was the finest human being he ever knew. Zeno the Stoic modelled his life on the ethical tradition of Socrates. The end of the final Athenian phase of classical Greece came with the suicide of Zeno the Stoic in 261 BC.[6]

Given Socrates' superior ability to effectively argue, was the State-assisted homicide of the 70-year-old stonecutter really homicide? Socrates might have avoided his own execution by escape, self-exile, or by eloquently pleading for leniency, with a chorus of family and friends. He was respected for his exceptional courage in war and peace. In key respects his end came voluntarily. In effect Socrates permitted State prosecutors to facilitate his suicide by hemlock, his very private voluntary suicide within the formal context of public State-assisted homicide. Socrates exercised his freedom to convert the inevitable end-of-life into a public statement: A man is free to arm himself with the moral equipment to stand up to the injustice of established power. He need not run away, or use the influence of others, or beg mercy. Socrates had killed no one. He had exercised freedom of thought and word, offering a new moral compass to those who would listen. How can a just State consider this a mortal crime?

Socratic dialogue reflects a solitary journey of the soul, the exertion of individual human freedom in spite of grave difficulty. First the monologue, then the dialogue. First the inner cultivation of a gift worthy of giving: human freedom. The defiant transforming thought of Socrates effectively converted his private suicide into State-approved homicide. The complicity of others confirmed this transformation. The end is no longer a solitary act. State-approved physician-assisted suicide is a novel form of homicide. If we call it by its real name we physicians will reject it. Defiance is the answer.

Charles W. Needham, M.D.
Norwalk

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Much Ado About Something

A play in Three Acts

Act I

A patient with no medical insurance is struck by an automobile whose driver has no medical pay in his insurance policy. He is brought by ambulance to a local hospital. He is discharged after 10 days hospitalization. These are his charges:

Ambulance—$300

Hospital bill including Operating Room fees—$24,000 (including Intensive Care and medication)

Orthopedic treatment for fractured femur, open reduction—$3,000

Surgical fee for splenectomy, private surgeon—$3,000

Cardiology consult, with preop clearance—$300

Neurology consult—$300

Anesthesia, two operations—$5,000

Rehabilitation treatment in the hospital, instruction, crutch walking, exercises, etc.—$750

X-rays in hospital including MRIs, CT Scans, etc.—$3,000

Act II

The patient does fairly well. He has to be seen because of a fractured femur by an orthopedic surgeon for approximately six months. X-rays are taken at the office of a private radiologist. The patient is sent to a physical therapist because of stiffness of the hip and knee. Eventually, he gets off crutches and on to a cane. However, he never really returns to his work in construction. He is finally released by the orthopedic surgeon after six months.

Act III

The legal case is settled prior to court appearance. The patient originally is represented by his second attorney, having discharged the first because he felt that attorney was not doing a good job. There is a letter of protection for only the orthopedic surgeon to the first attorney. This is now null and void.

The case is settled for $300,000 before trial.

Disbursements—

Attorney—$100,000

Plaintiff—$173,700

Legal Costs—$2,000

Hospital—$24,000

Ambulance—$300. According to the Connecticut State Statute annotated Title 49-73, Mortgage and Liens, Chapter 847, the hospital and subsequently, in 1959, PA 457, the ambulance services, are protected by liens in every case.

Orthopedist—$0

Cardiologist—$0

General Surgeon—$0

Neurologist—$0

Radiology, both in hospital and outpatient—$0

Anesthesia—$0

Last Act—Choose Your Ending

1. The patient moves to Florida as he cannot work in the north. Despite the fact the attorney tells client to please pay the physicians, the patient moves out of state, address unknown.

2. The patient declares bankruptcy prior to settlement and lists physicians as nonsecured creditors. He then does not even have to move out of state. This is most common when the patient does not receive more than $15,000.

End of Play

This is not an atypical situation. The facts have been repeated many times. The physicians who did the work did not get paid. I do not think this is fair. By adding the word "physician" to CT Statute 49-73, the protection that the hospital and ambulance company have by lien can be extended to the physician. I do not think this is unreasonable. I welcome any other comments.

Donald S. Dworkin M.D.
Stratford

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Editorial

Connecticut Has Failed Its Poor, Ill Patients

Connecticut-born P.T. Barnum, the great showman, used to exhibit what he advertised as a "happy family." This family consisted of a lion, a tiger, a wolf, a bear, and a lamb, all living together in one cage. "Remarkable," said a visitor to Mr. Barnum. "How long have these animals lived together this way?" "Eight months," Barnum replied. "But occasionally we do have to replace the lamb."

One of those "replaceable" lambs, apparently, is the most vulnerable group in Connecticut—77,000 dual-eligible patients who qualify for both Medicare and Medicaid. These include low-income elderly, some of our nursing home residents, people on kidney dialysis, the chronically mentally ill, and the disabled of all ages.

Until last year, the state Medicaid program paid the Medicare Part B deductible and 20% copayment—the "crossover" payment of these dual-eligible patients. The 1999 state budget, however, eliminated this vital funding as of last July.

The total savings to the state as a result of this action was $20 million. What makes this giant step backward especially egregious was that it happened here in Connecticut—the most affluent state in America, and a state that enjoyed a record budget surplus last year.

In the words of Hubert H. Humphrey: "The moral test of government is how that government treats those who are in the dawn of life, the children; those who are in the twilight of life, the elderly; and those who are in the shadows of life, the sick, the needy, and the handicapped." By that standard Connecticut has failed the moral test. Vice President Humphrey has long since passed from the scene, but his words endure.

When our neighbors in less affluent New York and Massachusetts were faced with the same problem of losing the vital safety net to protect the most vulnerable in our society, they acted decisively to restore funding. They recognized that these funds provide services for the people the state is most obligated to protect.

In all fairness, it should be noted that this important funding was supported by the state's Public Health committee, the Human Services Committee, and the Appropriations Committee during their deliberations. But the bottom line was that the final negotiated budget agreement included only 2% across-the-board Medicaid rate increase for caregivers that will have no effect whatsoever on the dual-eligible or HUSKY Medicaid patient. In other words, when all was said and done, more was said than done.

Access to care for the most vulnerable people in Connecticut has been severely jeopardized. The budget seems to have been balanced on the backs of those who are most at risk.

It is often said about an issue that requires spending state monies that "we have the will but not the wallet." That usually means that if it is deemed important enough, we can find the wallet. What is really disturbing about the dual-eligible issue is that we do have the wallet, but we can't seem to find the will.

The Connecticut State Medical Society will be back to remind people that this funding must be reinstated. Despite the limited attempt to spend a little more than $2 million to solve a $20 million safety-net problem, Connecticut ultimately has failed Humphrey's moral test of government.

Timothy B. Norbeck
Executive Director, CSMS
Reprinted from the
23 May 2000 *Hartford Courant*

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50 Years Ago

From *The Connecticut State Medical Journal*

July 1950

The Role of Potassium in Medical Therapy

JOHN EAGER HOWARD, M.D., *Baltimore*

The Author. *Associate Professor of Medicine, the Johns Hopkins University School of Medicine; Physician, The Johns Hopkins Hospital*

POTASSIUM metabolism has only recently become of widespread interest to the clinician. This seems remarkable in that potassium is the major cation of cells; and, though present in the extracellular compartment in relatively small amounts, either increase or decrease in its concentration here is accompanied by profound functional alterations. There is normally between 4.0 and 5.5 meq. per litre. The plasma has been found to be an accurate reflector of potassium concentration in the compartment as a whole, following Donnan's law.[1] Homeostatic mechanisms vigorously defend the concentration of potassium, which is the resultant of how much potassium enters and how much leaves the compartment. Entrance may be made from the exterior, i.e., by ingestion, or by movement of potassium from the cells. Egress of potassium is by way of the urine mainly. Normally almost all ingested potassium is absorbed and rarely more than lo per cent of dietary potassium is found in the stools; but gastric juice often contains two to five-fold the concentration of potassium of the plasma;[2] and in vomiting, gastric suction or diarrhea, large quantities of potassium may be lost with the enteric contents. We have been wont to think of the kidney as chief regulator of extracellular potassium concentration, excreting more when serum potassium rose, less as it fell; but there is good evidence that the large cellular compartment is "elastic" to potassium and can either yield or take up considerable quantities under suitable conditions. Thus Winkler[3] found that heavy loads of potassium could be injected without noteworthy alteration in plasma potassium concentration and only after considerable lag period was the potassium gradually eliminated in the urine. So, too, by using a form of artificial kidney in which the dialyzing solution was free of potassium, large amounts of potassium could be removed from the plasma of the dog (much more than would normally be present in the whole extracellular compartment) without noteworthy alteration in the plasma potassium.[4] The cellular compartment (blood cells and tissue cells) must have contributed the potassium to maintain the plasma concentration, under stimulus of this artificial removal of the ion. Thus the kidneys and the cell mass both play important roles in the normal homeostasis of extracellular potassium. But there are limits to the capacity of these homeostatic mechanisms, as will be seen later.

Elevation of plasma potassium has long been known to be deleterious. Ringer[5] found that the medium for in vitro heart studies must contain not too much or too little potassium or the heart would cease to beat. Development of electrocardiography, together with accurate methods for measurement of plasma potassium, has afforded knowledge of the alterations in electrical potential that accompany high and low serum potassium, and the electrocardiogram is for the clinician the most readily available method of spotting serious aberrations of potassium concentration in the plasma.[6] Other neuromuscular mechanisms, beside cardiac, are also interfered with when plasma potassium concentration is altered. With both hyper- and hypokalemia there is seen a type of peripheral motor palsy, much like the ascending paralysis of Landry; mild

Reprinted from the *Connecticut State Medical Journal*, July 1950.

Presented at the 24th Connecticut Clinical Congress, New Haven, September 15, 1949. The original investigations reported herein were carried out under contract between the Office of Naval Research and the Johns Hopkins University. From the Department of Medicine, The Johns Hopkins University.

paresthesias being the only associated sensory phenomena. The respiratory apparatus may be involved, resulting in very shallow, almost imperceptible, rapid respiration which is quite characteristic; but cranial nerves are rarely involved.

On the experimental side, McCollum, Orent-Keiles and Follis[7,8] demonstrated the deleterious effects of very low dietary potassium in young rats. Muscle and other tissues (except the liver) had greatly reduced content of potassium, the plasma potassium was low, and myocardial necroses, renal tubular dilatation and tubular degeneration were found. Desoxycorticosterone poisoning results in low serum and muscle potassium, presumably from the properties of this compound to induce diuresis of potassium.[9] Darrow's group confirmed these observations and demonstrated that however low tissue potassium was induced, there was a proportional increase in intracellular sodium, that serum potassium was lowered and that, provided "biological equilibrium" had been established, the plasma chloride was low and the bicarbonate elevated.[10]

To summarize, potassium is an integral part of the chemical anatomy of cells and the functional capacity of cells is influenced by the relative proportion of potassium present. Sodium cannot apparently substitute for potassium in the functional integrity of cell mechanisms. In the external cellular environment, potassium also plays an important role, its concentration being a product of the potassium absorbed from diet, that lost in the kidneys or from the gut, that provided by or taken up by the cells. The combination of these factors is so adjusted in health that the concentration of potassium is maintained within narrow limits.

Disturbances of potassium metablism might then be sought in disease states which produce functional aberration in one or more of these systems involved in homeostatic regulation, namely, renal disease, nutritional disease or abnormalities of cellular metabolism. Clinical recognition of disturbed potassium metabolism has been reported in representatives of each of these groups.

Renal insufficiency may result in either hyper- or hypokalemia. The type associated with reduction of urine is more often associated with hyperkalemia, especially if normal food intake has been maintained. It is to anuric patients that administration of potassium salts is apt to be most dangerous. However, we have seen one patient with severe vascular nephritis and maintained normal urine flow, whose hyperkalemia of 9 meq. was clearly the immediate cause of death. Contrariwise the renal pathology sometimes allows more potassium to escape via the urine than normal; and this situation, plus a reduced intake, eventually results in hypokalemia. There are well documented cases of this sort, to whom administration of potassium salts completely overcame their immediate difficulties and was for the timed being a life-saving measure.[11,12]

There is a curious familial disease called periodic paralysis in which, when serum potassium is lowered, the attacks are initiated.[13] Sugar, insulin or epinephrine-agents which cause movement cellward of extracellular potassium-often induce paralytic episodes in these patients, and the spontaneous attacks are also associated with, and presumably due to, low serum potassium. The metabolic defect in these people is as yet unknown; muscle analysis has shown them to have normal potassium content (though myocardial damage has been found pathologically), and the trouble seems to lie in an inability of the cell mass to support the extracellular potassium. Administration of potassium salts gives prompt symptomatic relief. In like manner, hypokalemia has developed in Addisonian patients overtreated with desoxycorticosterone,[14] quickly counteracted by administration of potassium salts.

A word about the behavior of potassium during recovery from diabetic acidosis. Before therapy such patients have usually an elevated, or at least normal, serum potassium concentration.[15] It has been our experience that, in the adult patients who are severely acidotic, during the first few hours of insulin and rehydration measures, there is little evidence of insulin effect on the carbohydrate metabolism, i.e., gluconeogenesis seems to continue and the movement of cellular contituents continues outward, i.e., nitrogen, potassium and phosphorus are being transferred from cells to the extracellular compartment.[16] During this period potassium may be excreted in the urine in either large or small amounts, but in any event the potassium from the cells is sufficient to maintain the concentration of potassium in the plasma to normal or even elevated concentration. When, however, evidence of glucose utilization appears and the blood sugar falls, the danger of hypokalemia is very real. In addition to continued urinary potassium excretion, the movement of potassium from cells to plasma is reversed; and both hypokalemia and hypophosphatemia are apt to be found. Especially does this seem to be so in patients treated with large quantities of intravenous glucose. In the milder or more fortunate cases where oral feedings can be safely tolerated early, potassium is almost always present in the pabulum given-in broth, orange juice, etc. But to the others, to whom intravenous therapy must be continued for one reason or another, hypokalemia is often a real danger,[17–20] and reduction of administered sodium and the use of potassium salts has seemed to us of the utmost importance.[16] In fact, it has long been our impression that sodium chloride is given in far too large quantities to most patients with diabetic coma and that, after initial rehydration measures with sodium salts, the use of potassium salts is a more physiological and efficacious therapy.

Of greatest interest to us has been the group of patients seen with hypokalemia associated with what we may call nutritional disorders. In starvation the organism uses up or "burns" his own self, as it were, for fuel. Benedict's classical experiment[21] on prolonged fasting disclosed that such elements as nitrogen, sulphur, potassium and phosphorus were found in the urine in the same relative proportions as they exist in protoplasm. This was true also of individuals subjected to brief periods of total and relative starvation. It was shown by balance experiments that, after such brief periods of undernutrition, when normal diet was resumed, the organism replaced or restored the lost component of certain elements much faster than others.[22] You will recall the relatively slow restoration of nitrogen that occurs after fasting; potassium was found acceptable and much more rapidly regained. In our work with total intravenous feeding, it was found that debilitated undernourished patients also accepted potassium readily, and it became routine to add 5 to 8 grams of potassium chloride to the protein hydrolysate and glucose solutions, with relative reduction in the sodium chloride content of our total intravenous feedings. Because of this, we may have prevented potassium depletion in some patients who would otherwise have developed it, and retarded our recognition that the syndrome of potassium depletion, as described by Darrow[10] is not uncommon. Once we sought such cases, many were found.[23]

A representative example was the following:

A 44 year old woman who, following ileostomy, had recovered completely from ulcerative colitis 16 years previously, insisted that, for aesthetic reasons, the ileostomy was no longer tolerable. Colectomy was performed and the ileum brought down to the anus. Diarrhea soon set in, oral intake was negligible, and for a month the patient was fed almost wholly by vein, sodium chloride and glucose being used with occasional additions of blood, plasma and Amigen. Her course may be followed roughly from Chart I. The rise in serum CO_2 and fall in bicarbonate were more or less steady; and when seen on the 32nd day, the chloride was 84, CO_2 more than 45 and serum potassium 2 meq. per litre; she had the physical signs and electrocardiographic evidences of profound hypokalemia. Institution of potassium chloride therapy (the only sodium given was in the Amigen used) resulted in prompt clinical improvement; and over a period of 12 days the electrolyte pattern was restored to normal. Fortunately, we were able to obtain balance data during the period of potassium therapy (Chart II). Potassium and chloride were both vigorously retained; sodium remained essentially in equilibrium. Weight could not be followed; but hemoglobin, hematocrit and protein concentration actually rose during the potassium chloride therapy.

Most of the patients in this group have behaved in just this manner, and it appeared likely that partial starvation, plus administration of considerable sodium chloride, had depleted the cell mass of potassium; intracellular sodium was high, and it had seemingly required a good many days to replete the cells with potassium at the rate of our administration. However, further experience and reflection cast some doubts on so simple an explanation. In the first place, dogs given only glucose and heavy loads of sodium chloride by vein, developed, after about two weeks, edema and the serum potassium began to fall; but chloride was elevated and bicarbonate reduced. Dogs which had been first starved and then subjected to the glucose and saline feeding developed hypokalemia sooner but still no fall in chloride or rise in CO_2 was observed. One of our patients in this nutritional group developed hypokalemia without alteration in chloride or CO_2 concentrations, and when given potassium chloride and small amounts of sodium (contained in Amigen), developed marked hyperchloremia and hypernatremia much like the so-called "water babies."[24] Sodium administration was stopped; and after a week of continued potassium chloride, the serum concentrations of all these substances returned to normal. We found no evidence of renal injury either by urine examination or phthalein excretion, and urea was not elevated in the blood.

It seemed noteworthy that all the patients in this "nutritional" hypokalemia group suffered either excessive vomiting, constant gastric suction or diarrhea. Since Darrow, whose fundamental studies on potassium metabolism have formed the basis of much of our present concepts, noted that the stools of infantile diarrhea contained considerable potassium,[25] and since our own observations on gastric juice had shown its content of potassium to be three to five-fold that of serum, it seemed likely that both chloride and potassium losses by these means were an integral feature in the development of the syndrome. However, this apparently need not be so, for in one instance we were able to obtain balance data on a patient as the syndrome was being developed. In an accident a child suffered a ruptured kidney and a small tear in the duodenum. Only sodium chloride and glucose were administered during the total intravenous feeding of more than a month, during which time gastric suction was being carried out. My associate, Dr. Carey, was fortunate in obtaining all the urine and gastric suction (there were no stools) for the 10-day period beginning eight days after the accident. The data (sweat was not measured but was seemingly negligible) indicated small positive balances of both sodium and chloride, the chloride slightly exceeding the sodium. About a week after our observation period, the therapy having continued unchanged, this patient developed the full-blown Darrow syndrome of hypokalemia, hypochloremia and high CO_2, from which she recovered as had the others with potassium chloride therapy; so that here hypochloremia developed without excessive chloride loss, at least during the period of our observation.

We have not had the courage, when the syndrome was identified, to give only sodium chloride for a while longer and determine by balance study just what was becoming of the administered chloride. Ordinarily injection of sodium chloride causes lowering of bicarbonate, at least transiently; but in these cases the result is just the opposite with rise in CO_2 and Ph.

Our data on gastric juice in these patients have likewise surprised us. Previous studies had shown gastric juice content of potassium to be three to fivefold that of serum,[2] but in three of these patients the juice obtained by suction contained only 1–2 meq. more potassium per litre than the serum. This brings up the possible role of the adrenals in the production of the "nutritional" hypokalemias. May it be that with hypercorticism the gastric juice is altered in its electrolyte content, as has been found by Conn to be the case with sweat?[26] There is other suggestive evidence in regard to the adrenals. Hypokalemia, low serum chloride and elevated bicarbonate were noted in Cushing's disease by Kepler,[27] and this has been confirmed by others. Talbot's group found in potassium deficient rats enlarged adrenals, low eosinophile counts and in short term animals high liver glycogen, in the long term animals high blood sugar and diabetic glucose tolerance curves.[28] ACTH has been reported to produce hypokalemia and alkalosis in a few days in certain cancer patients, and the same group noted this syndrome within a few days after major operations in several cancer patients.[29] We have not seen, or at least recognized, this syndrome in postoperative cases except under long-term inanition and potassium loss as described above. But cancer patients are thought to have abnormalities of their steroid metabolism and may be more prone to development of the syndrome. We know at least that certain adrenal steroids can sharply influence the metabolic picture in the direction of the pattern under discussion, and for the present had best leave the adrenals under watchful suspicion.

Regardless of the mechanism of production, there seems little doubt of the efficacy of potassium salts in the treatment of the condition. So a few practical remarks about the therapeutic use of potassium salts seem in order. If feasible, oral administration is, of course, to be preferred. Potassium chloride is the salt which has been most used, and in concentrations between 5 and 10 meq. per litre (approximately 0.5 to 1 per cent) is well tolerated. Higher concentrations, especially in already irritated stomachs, often cause distress, nausea and vomiting. Valentine's meat juice, an old proprietary remedy containing 1200 meq. potassium per litre, diluted tenfold, has been successfully used in patients who could accept oral therapy;[6] it contains also approximately 500 meq. sodium per litre and only 400 meq. chloride. Whether concomitant sodium administration reduces the effectiveness of the potassium by slowing access either to plasma or cells or alters the renal attitude toward normal homeostasis, we do not know at present. In our experience those patients most acutely in need of potassium salts are usually unsuitable for oral therapy. The major consideration in the intravenous use of potassium salts is the avoidance of a concentration of potassium more than 6–7 meq. reaching the heart. The amount of fluid given will depend, of course, on other conditions such as the state of hydration and the status of the heart and circulation. If small fluid volume seems desirable, solutions of potassium up to 100 meq. per litre (approximately 8 grams potassium chloride per litre) have been used, running the material in slowly, at rates of 1 to 2 cc. per minute. If large fluid volumes seem desirable, solutions containing 20 to 40 meq. potassium may be run in at rates of 5–10 cc. per minute. We have seen no grief attend such procedures. Our custom has been to have available sterile potassium chloride in 1, 2 and 3 gram lots and to pour the desired amount into whatever fluid seemed desirable—5 per cent glucose, a protein hydrolysate or a combination of the two.

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FROM THE EDITOR'S DESK

A Remembrance—July 1944

As the hot and humid days of summer descend once again upon Connecticut, a page of reflection and remembrance might be in order to commemorate a disastrous event of 56 years ago, the great Hartford circus fire of July 6, 1944. Just as many remember their personal whereabouts on the day President John F. Kennedy was assassinated, I recall from my boyhood that afternoon during World War II when I sat sulking in front of our house on Homestead Avenue in Hartford, deprived by circumstances from going to the circus under the "Big Top." My father was working, my mother was looking after two of us and pregnant with a third and would forego braving the 88° heat in a tent. A close uncle was with General Patton's Seventh Armored Division in Europe, and another possible escort, an uncle who was a Hartford policeman, was with the Seabees in the Pacific. I could not have known my ultimate good fortune at this deprived state when, shortly before 3 o'clock, I heard the city erupt into a cacophony of fire sirens.

The war had created manpower shortages everywhere on the domestic front, in the health professions, in industry, and yes, in the essential personnel to man the circus. It was later reported that the Ringling Brothers Circus staff of 1,000 was reduced to fewer than 500, that local teenagers were hired to help with the heavy work of setting up the tents, and that the scheduled opening matinee in Hartford on July 5 was cancelled because the reduced and inexperienced crew was unable to set up in time. In this strained milieu, attention to the placement of working fire extinguishers and the guarantee of accessible exits was overlooked.

In addition to the personnel shortages created by the war effort, essential materials were also in short supply. The only proven flame-retardant waterproofing solvent for use on canvas tents was reserved exclusively for the military. During the winter months in Sarasota, Florida, the Ringling Brothers crew had resorted to an old technique to waterproof the big top: 6,000 gallons of gasoline was mixed with 1,800 pounds of boiled paraffin, sprinkled on and broomed into the canvas and allowed to dry. This lethal umbrella was the cover for the 7,000+ attendees at the circus that day, mostly children, mothers and grandparents, as the fathers and uncles and older brothers were elsewhere occupied.

The performance opened with the playing of the Star Spangled Banner at 2:00 P.M. By 2:40 P.M., the famed Flying Wallendas were on the high wire with their daring act when the first flames appeared. When the bandleader became aware of it, he switched his musicians into a fast-paced rendition of "The Stars and Stripes Forever." Experienced circus people like the Wallendas immediately recognized this change as a signal of danger and they all scrambled down the rope ladders, but the young circus-goers and their escorts took longer to sense and then react to the danger. Bleacher chairs were soon crashing over, the inadequate exits became plugged bottlenecks, and as the flames reached the top of the tent, the once protective umbrella made its fiery descent upon the victims below.

The death toll was 168 (169 from some sources), mostly children, including those few who succumbed days or weeks later from the complications of their burns. Friends of our family lost children. Considering the thousands under the tent and the suddenness of the conflagration, it is almost miraculous that more did not die. Unknown and unheralded acts of heroism surely played a part such as the young Donald Anderson who, after exiting underneath the side canvas, turned, and with his new pocket knife slit a five-foot hole in the tent through which some three hundred people are estimated to have escaped the flames.

There were medical heroes, too, among them the nurses and doctors at McCook Hospital, closest to the scene, and at St.Francis and Hartford Hospital. Less heroic, but one whose prescience led to a more comprehensive and orderly handling of the disaster was Dr. Donald Wells, a surgeon on the Hartford Hospital staff and leader in area-wide planning after the U.S. entered the war.

Donald Wells chaired the Hartford County Medical Association's Committee on Medical Preparedness and saw Connecticut as a potential target of attack because of the numerous industries here engaged in military-related production. Colt Firearms, Pratt and Whitney Aircraft, Pratt and Whitney Tool, Ensign-Bickford, Veeder-Root, Hamilton Standard, and Electric Boat were some of the larger munitions-makers engaged in round-the-clock production during the war. Munitions contracts from the U.S. government totaled more than $8 billion through the war years in Connecticut with additional contracts from European governments. As a boy walking to school, I passed by the Veeder-Root factory and remember the anti-aircraft gun implacements visible on the roof.

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Wells' medical concerns were heeded. With so many doctors, nurses, technicians, and other medically-related personnel away in the military, Wells proposed training civilians as Red Cross Aides. Hundreds of them were available and many were mobilized on the day of the fire. Civilian delivery vehicles, with their drivers, had been made ready for disaster and were called upon. Human plasma was the volume expander of preference in that medical era and over 3,000 pints had been stockpiled; the stockpile was tapped to resuscitate the burned victims.

Hospital interns and nurses worked tirelessly over the victims in each of the hospitals. With so many civilian volunteers involved, attending doctors worked without fees as well. Consultants from Boston who had been involved in the care of the burn victims of the Cocoanut Grove nightclub fire there in November,1942, came to Hartford, made rounds on the casualties and gave essential advice. Dr. Connor, a surgical faculty member at Yale, came and oversaw the application of a new technique of burn dressing and grafting that he had introduced. At Hartford Hospital, there were just three deaths of burn victims. Dr. Wells reported on the disaster at the New England Surgical Society Annual Meeting in September, 1944, and his paper was published in the *New England Journal of Medicine* in May 1945. In the aftermath of the fire, and for years up to the present, the medical community of Hartford, including its hospitals has been held in the highest esteem by the citizenry. Preparation, hard work and cooperation have been rewarded.

As for the circus, which sacrificed prevention for expediency, a performance under the "Big Top" was not held in Hartford for 40 years.

H. David Crombie, M.D.
Editor

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What Is Our Destiny As Connecticut Physicians

How should we live our lives as physicians during this time of tumultuous confrontation, challenge, and change? I believe that our medical profession is defined by indelible values such as dedication, empathy, compassion, service, candor, humility, advocacy, and reverence for human life. As doctors, we must respond to the outrageous encroachment of managed care on our professional integrity. Here, on the President's Page, I will share my thoughts as I strive to apply these values to this struggle, day by day, over this millennium year.

Physicians are under constant pressure to compromise their professional values for the sake of employers and stockholders. We are compelled to sign contracts that allow a health plan to terminate a "provider" without notice, due cause, or recourse. Under some health plans, physicians become, in effect, employees stripped of legal protections. Low physician compensation that is not adequate to maintain the office staff carries the constant threat of insolvency. The 300 group practices that have already foundered on the West Coast are a constant reminder that no one of us is immune.

Society has no shield to protect us from these assaults. We are considered an essential commodity that is well compensated. In the past, we have been labeled as self-serving. So, we are left essentially on our own, without the "deep pocket" resources necessary to hire "top gun" anti-trust lawyers, and without even the protections offered factory workers, because we are considered individual contractors who are indispensable to society. Every physician is intimately aware that the Justice Department waits in ambush for us to cross that ill-defined line called collusion with the threat of intimidation, humiliation, and litigation. We watch helplessly as our already fragmented and fragile health care system is torn apart by health plans, employers, regulators, consumers, investors, lawyers, and legislators. How do we represent our patients under these trying and confusing circumstances?

We must not forget that the past ten years in Connecticut have been difficult times for our patients as well. The most reprehensible result of these health insurer actions is the rupture of trust between doctor and patient. This sacred bond is being manipulated by managed care on a daily basis:

- the patient is notified that the HMO formulary no longer provides the medicine just prescribed by the doctor and the HMO reviewer boldly suggests to the patient a more "cost-effective" substitute;
- the insurer automatically denies the intimately negotiated and mutually agreed upon diagnostic or treatment plan; and
- the "doctor-to-doctor" review is imposed to "authorize" needed treatments, despite every intention of denying care.

The final blow is the inevitable look of incredulity on their faces, as we try to explain the dictates of managed care.

I can remember the middle-aged man who pleaded with me to obtain a PSA despite the fact that all the guidelines, absence of symptoms, and normal examination surely indicated this was an unsupported and frivolous test. He thanked me with tears in his eyes 10 days later after the prostatectomy that cured his cancer. I am sure you have had similar experiences. This trust, candor, and communication is the art of medicine—it is more cost-effective and life-saving than any proprietary protocol. No third party payer will ever stop a caring physician from making deeply personal and intuitive medical decisions, regardless of what the clinical guidelines say.

We are taking back control of our fractured health care system. The AMA has a new, politically aggressive patient-oriented policy of informing legislators, the press and the public about the dangerous aspects of managed care. The AMA encouraged and assisted us to advertise in newspapers throughout the state accusing Aetna of "playing doctor" with our patients and condemning Aetna's "all-products" clause. William Donaldson, Aetna's Chief Officer, responded to our concerns about unfair trade practices, at our Annual House of Delegates, and announced Aetna's intention to rescind such unfair contracting in Connecticut. Aetna is also requesting a liaison from the Council of the CSMS to

(continued on next page)

present issues and concerns over the policies and procedures of managed care as well as matters of etiquette in doctor—insurers interactions. Physicians across the country are following our example—they are fighting back through legal action and by spurning objectionable health plans.

This year our own M.D.PAC is likely to reach 1,000 members for the first time ever. Physicians are in a fighting mood after being hammered by insurers for the last ten years. The most recent "Doctors Day" at the Capitol generated a record-breaking attendance of physicians. Connecticut physicians are invested with organized medicine as a tool for professional survival.

We will decide our future. Our behavior under fire defines our character as a profession and our reputation as patient advocates. We must speak out loudly for our patients, clearly for our professional moral code, and practice what we preach—we must enter the debate on the health care system without hesitation. We have a moral and professional duty to create hope for our patients. The biblical scholar Hille wrote, "Watch your THOUGHTS, they become your words; watch your WORDS, they become your ACTIONS, watch your ACTIONS, they become your habits; watch your HABITS, they become your character; watch your CHARACTER, it will become your DESTINY."

Donald D. Timmerman, M.D.
President

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Fig. 1: Deer Tick

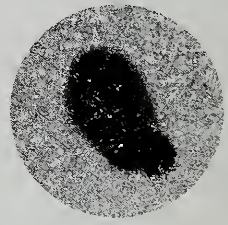
Fig. 2: Melanoma

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REFLECTIONS ON MEDICINE

Stanley Webber Jackson, M.D.
Physician and Scholar
1920–2000

ROBERT U. MASSEY, M.D.

QUOTED in the program for Stanley Jackson's memorial service in Battell Chapel, 20 June 2000, were these words from his recent book, *Care of the Psyche*: *A History of Psychological Healing*:

> Among those with a disposition toward caring and curing, some have brought inclinations and temperament especially suited to the practice of psychological healing—a respectful and interested way of listening; a readily-felt trustworthiness; a compassionate and sympathetic response to those who suffer; a capacity for arousing and sustaining hope; and a calm response to disturbing or frightening clinical states.
>
> Often physicians need to look beyond the obvious signs and symptoms—even as one physician expressed it, to "look through their patients to discover the underlying pure disease." But if this were to become a matter of viewing the patient as transparent, the healer would risk losing sight of the suffering person. As has been so aptly said, "We are not here to see through one another. We are here to see one another through."

I have been blessed to know Stan Jackson for the better part of two decades, at first through our common interest in the history of medicine and in books, and later simply as a good friend. Scholar, physician, and psychiatrist, he delighted those of us who knew him well with his deep knowledge of so many things, but even more with his warmth and gentle irony. By this I do not mean sardonic irony, but rather that which Allen Tate in one of his essays described as "the moral identity of humility and irony," akin, I feel, to Churchill's advice never to take one's self too seriously. Always laughter or a smile lurked close to the surface.

The last talk I heard Stan give was on the life of Eli Todd, founder in 1822 of the Hartford Retreat, later the Institute of Living. This for him was a work in progress; the painstaking research was typical of all his scholarly work. Each person mentioned, each picture especially of Todd's family and friends was drawn in precise but sympathetic detail, coming alive with his telling.

As a healer, he was emphatic about the importance of listening, recalling William Osler's words, "Listen to the patient, he is telling you the diagnosis." I recalled that I had first heard that Oslerian precept from a psychiatrist colleague half a century ago.

> It has become clear that listening is central to learning about and coming to understand a sufferer, and those steps are crucial to being a healer. The healer learns about the sufferer in direct proportion to the quantity *and* quality of his listening. And this is not to ignore looking, or to overlook disease, or to downgrade objectivity.

Stan's career in medicine began after five years as a Flying Officer in the Royal Canadian Air Force during World War II; friendships made in those years among RCAF comrades continued until his death. As an undergraduate at McGill before the War he had studied accounting; by 1950 he had his M.D. from McGill and after internship at the Royal Victoria in Montreal, he and his wife Joan headed for the West Coast, first to British Columbia, then to Seattle. There he completed his residency in psychiatry, entered private practice, and accepted a clinical faculty appointment at the University of Washington. He joined the Yale faculty in 1964 first in the Department of History of Science and Medicine and later in the Department of Psychiatry. He served as acting executive director of the Yale Psychiatric Institute between 1987 and 1989, and as Editor of the *Journal of the History of Medicine and Allied Sciences* from 1991 to 1996. When he died he was president of the American Association for the History of Medicine. Stricken with what proved to be his last illness early this spring he was unable to deliver his presidential address; Dr. Sherwin Nuland read it in his place at the annual meeting in Bethesda.

In *Care of the Psyche* toward the end he asks how we will balance the equivocal influence of technology on the humane practice of medicine. How find the time to listen? "How do we protect the care of patients from the dehumanizing dangers posed by those twin demons, technology and managed care?"

In Joan Jackson's remembrance at her husband's memorial service in June she recalled that "He felt that by some miracle he had lived at the right time, and had been in the right places so that he could do the things he most enjoyed doing ... treating, teaching and writing.... He felt fortunate to have chosen a career which could and did continue till the day he died."

ROBERT U. MASSEY, M.D., Professor Emeritus, Division of Humanistic Studies, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington.

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What is PEPP and What Does PEPP Mean for Health Care Providers?

Qualidigm, the Connecticut Peer Review Organization (PRO), would like all providers in Connecticut to have a better understanding of the Payment Error Prevention Program (PEPP), a new program requirement for all PROs under the Sixth Scope of Work (SOW) with the Health Care Financing Administration (HCFA). PEPP is part of the broad Medicare program integrity initiatives under the Clinton Administration. PEPP is designed to reduce payment errors made by PPS inpatient hospitals using a continuous quality improvement methodology similar to the clinical quality improvement projects currently implemented by the PROs. Although PEPP is a national project, hospital participation is mandatory.

Q: What is the goal of PEPP?

In 1998, the Office of Inspector General (OIG) released findings of its audit of the HCFA's 1996 and 1997 financial statements. The OIG estimated that, for each of these years, approximately four billion dollars in erroneous payments were made to hospitals by Medicare for inpatient care in PPS hospitals.

The goal of PEPP is to protect the integrity of the Part A Medicare Trust Fund. This goal will be accomplished by reducing erroneous overpayments and underpayments made by Medicare for inpatient care provided in PPS hospitals. The purpose of PEPP is to reduce all payment errors, on a statewide basis, and work with hospitals to prevent future payment errors. PEPP will be limited to PPS acute care hospitals and inpatient hospital services; it will not examine physician bills.

PEPP will:

- Be used as a surveillance system to measure and track inpatient payment error rates
- Identify causes of inpatient payment errors
- Intervene primarily through educational efforts to reduce future payment errors.

Q: What is the cause of these payment errors?

HCFA believes that the majority of billing errors are not intentional but the result of a very complicated payment system. Many of the errors may be clerical in nature or may result from incomplete documentation or inaccurate coding. HCFA believes that educational interventions will assist in correcting these errors and that education is at the core of reducing the rate of payment errors.

Aberrant patterns in coding have been a concern to HCFA. Generally, increases or decreases in the use of certain DRGs by PPS hospitals are expected. However, atypically high billing patterns have been noted on a nationwide basis by the Office of Inspector General (OIG) in studies on certain DRGs from 1993 to 1996 data. For example, in the Executive Summary, the OIG states that "The results of the 1996 validation effort showed approximately 13% of the sample DRG 416 (Septicemia, age 18 or older) discharges should have been coded to a lower weighted DRG. HCFA estimated that the total overpayment attributable to incorrect DRG 416 classifications was $48,930,882."[1] In another study conducted by the OIG, the study sample of PPS hospitals had a 73% increase in the use of DRG 014 (Specific Cerebrovascular Disorders Except Transient Ischemic Attack) from 1993 to 1996 compared to the national average, which was a six percent increase from 1993 to 1996.[2]

Q: How will the hospitals be involved in PEPP?

The role of the hospitals in PEPP will be to maintain effective utilization programs, maintain effective quality improvement programs, adhere to coding and billing regulations, and collaborate with the PRO to reduce payment errors. PEPP is not a voluntary program. All PPS hospitals are required to participate in this national initiative. Hospital facilities nationwide will be involved with the implementation of system changes designed to reduce or minimize payment errors.

The PRO is collecting local level data to identify trends and potential opportunities for improvement. Once a potential concern of payment error is identified, the PROs will assist the hospitals with the identification of patterns suggestive of incorrect DRG assignment, medically unnecessary or inappropriate care, inappropriate transfers or premature inpatient discharges resulting in unnecessary readmissions. The PRO will work with hospital providers to identify the causes of payment errors and develop strategies including interventions to reduce the statewide error rate and to reduce future billing errors. The PRO may consult with providers, sponsor small focus groups to communicate coding information relative to problematic areas identified, and publish PEPP information in newsletters. Another educational focus may be medical record documentation, especially for substantiating the principal diagnosis. This will include physician education.

Q: How will PEPP affect Physicians?

The PEPP program will be examining only hospital bills and will not examine physician bills. The hospital and the PRO may need to involve physicians in correcting a source of error.

Q: How will the PRO accomplish its work in PEPP?

HCFA requires that, during the first year of PEPP, the PROs conduct one quality improvement project on unnecessary admissions and one project on DRG miscoding. In addition, a random sample of 1,100 cases per state for FY 1998 was requested by the HCFA's Clinical Data Abstraction Center (CDAC) to establish each states' baseline payment error rate. Starting in February 2000, an additional 93 records per state per month will be requested by the CDAC, on a random basis, for Medicare discharges occurring on or after October 1, 1999 for a surveillance sample. Of the records the CDAC abstracts, those cases failing screens for medical necessity of admission, quality and DRG coding are forwarded to the PRO along with a 10% sample for quality assurance. The PRO will perform full case review on all records sent by the CDAC.

The PRO will provide the statewide error rate to hospitals when it becomes available. A remeasurement of the payment error rate will be done at a future date to determine if the error rate has diminished. Hospitals will be provided with feedback regarding their specific error rate and level of improvement as data becomes available.

Q: Are new processes for medical review in place for PEPP?

Consistent with existing traditional medical review the PROs have been doing, providers will be notified of any case that cannot be confirmed through medical record documentation as appropriate in the admission, discharge, DRG assignment or where a quality of care issue emerges.[3] Providers will still be entitled to full appeal of any case that is denied. When the review process supports the determination of an inappropriate admission or a change in the DRG, the PRO will notify the provider, the beneficiary and the fiscal intermediary that a payment adjustment must be made. Payment adjustments will be made only on actual cases reviewed by the PRO.

Would you like to learn more?
Call the PEPP team for a presentation at (860) 632-6376.

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This Month's Reading in Review

TIMOTHY B. NORBECK

San Jose, California, will soon become the first city in the U.S. to offer comprehensive health coverage for every child.... The San Jose City Council voted on June 12th to support such a plan.... It may end up being financed by tobacco lawsuit settlement funds.

Los Angeles Times (5 June 2000)

Nice Try!—A California couple contended that they aren't subject to federal taxation because they have no "political relationship" with the U.S. ... In a less than surprising decision, a federal appeals court said the claim was "completely meritless."

Wall Street Journal (7 June 2000)

Come to think of it, not a bad idea!—Humorist Dave Barry proposes a friend's idea on how to simplify tax law: Every April 15, lock all members of Congress in prison cells with tax forms and the tax code.... Keep them there, " without food or water, until they had completed their tax returns and successfully undergone a full IRS audit." ... Naturally, Mr. Barry says, "this system would probably result in a severe shortage of congress-persons. But there might also be some drawbacks."

Wall Street Journal (7 June 2000)

"What a shame that health maintenance organizations are forced to get out of Medicare because they can't turn a substantial profit with the regulations imposed on them by the government. That only proves that the only way they can stay in business is by making their own rules and imposing hardships on patients and providers. Managed care was an answer to a nonexistent problem. Medicare was doing fine on its own, so the insurers decided that it was time to get a piece of the action. Too bad we can't legislate some rules and regulations that they would have to abide by in the rest of health care not covered by Medicare."

A letter to the editor by a New York physician who was not sympathetic to HMOs withdrawing from the Medicare market.
New York Times (7 June 2000)

Question: "What is driving up the cost of health care?"

Answer: "The principal factor by far is medical innovations like new drugs, new surgical procedures and new diagnostic techniques. This is not just my opinion. I surveyed the 50 leading health economists in the country on this question. Over 80% of them agreed with me."

Stanford economist Victor Fuchs responding to a question put to him by the New York Times.
The New York Times (2 May 2000)

Only in Hollywood—"Mike Ferguson, a Republican candidate for Congress in New Jersey, may have hit on the perfect fusion of issues to get himself elected: America's love-hate relationship with Hollywood and its hate-hate relationship with taxes. A recent Ferguson mailing has a picture of actress Hilary Swank the night she won the Oscar for playing a boy in the movie 'Boys Don't Cry.' She's wearing a tres chic gown that's got Ferguson really riled up. 'Glamorous movie stars deduct thousands for their Oscar gowns while YOU GET NOTHING!' his mailing says. 'It's hard to believe that millionaire movie stars can deduct the cost of their Oscar Night ... gowns,' he says, but he's discovered that buried deep in the U.S. tax code [isn't everything?] is a little known revision that allows them to do just that."

Washington Post (5 June 2000)

Editor's Note: It must have worked. He won his primary.

In a nationwide survey of how Americans view the ethical standards of various professions, scientists and teachers scored highest at 73%.... Clergymen were next (70%), followed by farmers (70%), doctors (69%), engineers and judges (63% each) military officers (59%), and police officers (52%).... Rounding out the list were bankers (36%), journalists and government workers (28%), lawyers and union leaders (24%), professional athletes (22%) and insurance executives (20%).... At the bottom of the list were actors (17%), politicians (15%), prostitutes (7%) and car salesmen (6%).

FoxNews/Opinion Dynamics poll
New York Post (28 May 2000)

Only in America—ABC's John Stossel recently profiled Dave and Donna Batelaan.... They are both disabled and run a disabled-friendly store that sells and repairs wheelchairs and related products.... Yet they were sued for not having specially marked handicapped parking spots for their almost entirely handicapped clientele.

The American Enterprise (June 2000)

TIMOTHY B. NORBECK, Executive Director, Connecticut State Medical Society, New Haven.

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July 12–14,17	Stamford Hospital	7:00 a.m. – 2:30 p.m.	Medical Staff Lounge
July 18–21	St. Vincent's Med. Center	7:00 a.m. – 2:30 p.m.	Doctors' Lounge, Level 2
July 24–27	Yale New Haven Hospital	7:00 a.m. – 2:30 p.m.	Children's Hosp., MDs' Lounge West Pavilion, Room 106
July 28	CSMS, New Haven	9:00 a.m. – 4:30 p.m.	Council Room
Aug. 1–2	Hospital of St. Raphael	7:00 a.m. – 2:30 p.m.	Physicians' Lounge, Main One
Aug. 3–4	St. Mary's Hospital	7:00 a.m. – 2:30 p.m.	Conference Center, Room G-01
Aug. 7–10	Hartford Hospital	7:00 a.m. – 2:30 p.m.	Doctors' Lounge, Main Floor
Aug. 14–16	St. Francis Hospital	7:00 a.m. – 2:30 p.m.	Medical Staff Lounge, 3rd Floor, Patient Care Tower
Aug. 17–18	Bristol Hospital	7:00 a.m. – 2:30 p.m.	Physicians' Lounge, Level C
Aug. 21	Lawrence & Memorial Hospital	7:00 a.m. – 2:30 p.m.	Doctors' Lounge, 2nd Floor
Aug. 22	Windham Hospital	7:00 a.m. – 2:30 p.m.	Griswold Room
Aug. 23	New Haven Medical Association	9:00 a.m. – 4:30 p.m.	Ball Room
Aug. 24	Middlesex Hospital	Call CSMS for times	Conference Rm. A
Aug. 25	UCONN Health Center	Call CSMS for times	Medical Deans Conference Rm.

IF THE HOSPITAL DATES ARE INCONVENIENT, YOU ARE WELCOME TO HAVE YOUR PHOTO TAKEN AT THE CSMS OFFICE ON JULY 28th.

Letters to the Editor

Letters to the Editor are considered for publication (subject to editing and abridgement), provided that they are submitted in duplicate, signed by all authors, typewritten in double spacing, and do not exceed 1-1/2 pages of text (excluding references). They should not duplicate similar material being submitted or published elsewhere. Letters referring to a recent Journal article should be received within six weeks of the article's publication.

Lost Heroes, Absent Mores

Letter to the Editor: In "Gaping Holes in the Social Fabric" (*Conn Med* 2000; 64:241) Dr. Massey said "surely the most fearsome is the creeping incivility, offensive behavior, public vulgarity, the notion that courtesy and deference are undemocratic, threatening our overprized egalitarianism; in short, good manners are offensively elitist!"[1]

The social fabric is porous at best, like an old pair of jeans with little holes here and there and a patch or two. Gaping holes are another matter, offending sensibility. A young man emerging from a restaurant in Soho asked me: "Brother can you spare a twenty? I need some gas." He wanted a portrait of our first real democrat, Andy Jackson, seventh President of the United States. In our mobile society the twenty dollar bill has replaced the dollar, a double sawbuck for a buck, Jackson, not Washington, pumped out of ATM machines. Money isn't what it once was; neither are manners, or Cicero's "mores."[1] As heroes, Washington was courageous and elegant, Jackson brave and rough.

Andrew Jackson was the first president to win national election by popular appeal to the mass of voters, rather than by the support of political powerbrokers on the Atlantic seaboard. He was the first President from west of the Appalachians, defeating John Quincy Adams by an electoral vote of 178 to 83, "after a campaign in which personalities and slander played a larger part than in any previous national election."[2] This tough military hero from Tennessee threw open the doors of the White House on his election night in 1828. His raucous mountain buddies rode in on horseback, leaders of a new democratic party, carousing for weeks in the citadel of power. The Eastern Establishment of federalists and conservatives saw our new nation "going to hell in a handbasket."[1]

Born in the western frontier of the Carolinas in 1767, Andrew Jackson was a boy of 14 when he was captured and imprisoned by the British. He refused to shine the boots of a British officer and suffered a saber-cut across his face. Two of his brothers, and his mother, died during the British invasion of the Carolinas in 1780–81. As a major general in the Tennessee militia Jackson defeated the Creek Indians, allies of the British, in 1813-14 in Alabama. He drove the Spaniards and British from Florida, and defeated the British in New Orleans, solidifying the defeat of the world's most powerful maritime power in the War of 1812. Jackson as president embodied the rough-hewn new American democracy. Six new states were added to the Union. He was a self-made man, up from poverty into law, Congress, generalship, and the presidency. He spoke of the dangers of "moneyed power,"[2] whether in the hands of the Eastern Establishment or foreign monarchies. Politicians do not speak truth when their mouths are stuffed with money. In 1832 Jackson was re-elected President by an even larger margin, and left the Presidency more popular than ever.

Two centuries later Jacksonian incivility abounds, in the absence of rough and ready Jacksonian democracy. "Moneyed power" plays a heavy role in contemporary national politics. Supranational corporations collect politicians like baseball cards. Candidates raise millions to buy TV exposure, becoming beholden to vested interests. Debts are owed. Soft money is always on the menu. Tax breaks are arranged. Lobbyists and dinner guests are qualified by fat wallets, the Lincoln Bedroom up for sale. Where have all the heroes gone? In recent decades we have heard disturbing Presidential words: "I am not a crook" (ie, I had no advance knowledge of any burglary); "No arms for hostages'' (ie, Arms for hostages); "Read my lips, no new taxes" (ie, New taxes). My favorite: "It depends what you mean by 'is'" (ie, Truth depends on interpretation). What is truth? said jesting Pilate, and would not stay for an answer.[3]

No modern Cicero steps up to the Roman Forum to strengthen a Roman Republic threatened by tyrants. It took courage to speak out in those days. Beneath the Roman Forum was a darkened cell in which political enemies were strangled. As Dr. Massey noted, Cicero cried "O tempora! O mores!" Mores is the Latin plural of 'mos' or custom. Cicero cried out about the dangerous times, specifically the civil or secular times in which he lived, and the general disrespect for moral custom. "We honour Cicero, who taught us how to think," said Voltaire. Cicero was eventually silenced by assassination. His head and hands were displayed on the rostra or speakers platform at the Roman Forum.

I was a general surgeon in the Air Force stationed in Texas when President John F. Kennedy was assassinated. Like most Americans I was devastated. The times were dangerous, the social fabric ready to tear in two. President Lyndon B. Johnson took the reigns and American troops started pouring into Vietnam, 185,000 by the end of 1965. Every military doctor I knew worried about being shipped out to Vietnam. On the 25th anniversary of the end of the war in Vietnam Bob Herbert wrote "A Fool's Errand" in *The New York Times* (4 May 2000).[4] He spoke about the deaths of his two friends Farmer and Conover: "Neither had a clue about the politics or the history or the egos that sucked them up like dust from a carpet and consigned them to their pointless fate. Vietnam was a fool's errand, and the young and the ignorant went to their doom by the tens of thousands. When David Brinkley, appalled by the carnage, asked Lyndon Johnson why he didn't just pull out of Vietnam, thus saving many lives, Johnson replied, 'I'm not going to be the first American President to lose a war.'"[4]

The Vietnam war continued under President Richard Nixon, whose muckraking Vice President Spiro Agnew was Nixon's lightning rod. In 1969 Agnew called the opponents of the war "professional anarchists," "nattering nabobs of negativism," "pusillanimous pussyfooters," and an "effete corps of impudent snobs." Nixon called Agnew his insurance against assassination. "Who would want President Agnew?" Nixon laughed.[5] In 1970 came the Kent State killings, and the exposé of the massacre at My Lai. The release of the "Pentagon Papers" in 1971 revealed "a pattern of incompetence and outright deception by the U.S. military."[6] In 1973 President Nixon finally announced that Americans would withdraw from Vietnam. More than 58,000 American soldiers were killed, and unknown numbers of Vietnamese people.

There are many possible causes of "gaping holes in the social fabric." Some suppose that highly mobile larger American populations, and a loss of nuclear family structure and traditional values are sufficient explanations. But for me the brutal assassinations of the Kennedys and Martin Luther King, and most of all the relentless killing in Vietnam were caustic acids burning gaping holes into the social fabric of the last third of 20th century America. Any leader could be eliminated. There were too many caskets returning dead men from the battlefield, too many families laid waste. Black walls with lost names were carved into human hearts. Johnson and Nixon made it clear that the national political leaders of both parties were unworthy of our public trust. Political cynicism became rampant. Our leaders had broken their sacred covenants. All the heroes lay dead, along with innocence. Trust is like the soul. When it leaves the body it is gone. Boys were sent off to a war that never was ours to fight.

When the Vietnam war finally ended, 25 years ago, we adopted an infant son from Vietnam. Ben is an artist, now 26. He just returned from his very first visit to the beautiful country of his birth. He told us that the Vietnamese take very good care of their old people. That's as fine a measure of social fabric as any I know.

Charles W. Needham, M.D.
Norwalk

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A Response to a Chiropractic Response

Letter to the Editor: Chiropractor Brian C. Baker, president of the Connecticut Chiropractic Association, writing in its behalf, in his response to a review of my book by Dr. C. Robert Biondino, has erroneously stated that the book, "Chiropractic the Greatest Hoax of the Century?" did not acknowledge the research findings on acute low back pain by the former Agency for Health Care Policy and Research. The book contains an entire chapter devoted to that subject

In addition, the book goes one step further in containing personal communications from the chairman of that AHCPR panel, Dr. Stanley Bigos, Professor of Orthopedics and Environmental Health, University of Washington Medical School, and a second letter from Dr. Paul Shekelle, chief investigator for the chiropractic-funded Rand Corp. study on which the AHCPR findings were primarily based.

Furthermore, the book reports the most recent findings that chiropractic spinal adjustments are of no value in the treatment of low back pain.

The basic thrust of the book remains unchallenged by chiropractor Baker. Despite the passage of over 100 years, chiropractic has failed to prove its theory of "vertebral subluxations" pressing on nerves causing disease, or that spinal "adjustments" are effective treatment for any disease.

Chiropractor Baker has attempted to obfuscate the issue by accusing the author of the book of "bias" and "lack of objectivity." The fact is that 27 medical college deans who responded to my survey, unanimously agreed with me that the theory and practice of chiropractic. Scientific medical authorities like Dr. C. Everett Koop, former U.S. Surgeon General, Dr. George Lundberg, former editor of the Journal of the AMA, Dr Paul Dworkin, editor of the journal Developmental and Behavioral Pediatrics, Dr. Arnold Relman, editor emeritus New England Journal of Medicine, and a host of others whose personal letters support my findings, and are all in the book.

Finally, chiropractor Baker has failed in his review to indicate just what contribution chiropractic has made to scientific health care over the past century. In essence he has failed to negate the book's conclusion that chiropractic has made none, and that the theory and practice of chiropractic is a false hoax, as documented.

L.A. Chotkowski, M.D., F.A.C.P.
Kensington

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BOOK REVIEW

Physician Profiling
Background and Practical Experience
Edited by Kenneth J. Pechman, Ph.D., M.D.
March 2000, American College of Physician
Executives, Hillsboro Printing Company, 207 pp.
CD included. $55.00. ISBN: 0-924674-74-1

Physicians with leadership positions on hospital staffs, IPAs, or who sit on HMO boards will profit most from this slender volume. But any physician who wants to take the time to read it will get an overview of profiling that will provide some understanding, if not acceptance, of this phenomenon. There are over 20 different authors most of whom are physicians with administrative credentials. It is divided into three sections that deal with the history, practical concerns, and practical applications of physician profiling.

The necessity for physician profiling is discussed and repeated in almost every chapter. The reader is reminded that: 1) until recently physicians have practiced with very little economic oversight from insurers, and 2) health costs have skyrocketed because modern technology is expensive; medicine has changed from a cottage industry into a business. It was the Health Care Financing Administration (HCFA) that originated the concept of profiling when it paid hospitals prospectively for disease related groups (DRG). After managed care became employers' choice for reining in premiums, managed care organizations (MCOs) were required by the National Committee for Quality Assurance (NCQA) to standardize physicians' practices to comply with the medical and economic needs of employers. This first attempt at profiling resulted in the Health Employer Data and Information Set (HEDIS) which gave large employers who paid for a substantial amount of the health-care bill a set of standards to look to for guidance when contracting with HMOs.

Those who are in solo practice or in small groups will be alarmed to read that as profiling becomes a more critical factor in helping MCOs choose who to accept on their panels, primary care physicians and specialists will need the capabilities to gather large amounts of data from their patient encounters to make themselves competitive. Solo practices and small groups may not able to produce the information required by insurers and employers and may have a more difficult time surviving. The authors contend that larger groups will be more successful because they will be able to afford the equipment and personnel to retrieve the data that yield valid profiling. In addition, it will be the larger groups that will have the economies of scale necessary to practice more efficiently in other ways. Some studies suggest that small groups do not practice as efficiently as larger groups. For example, large groups can allow for informal consultation that may cut down on unnecessary testing. These conclusions are not as clear as the authors would have the reader believe.

Notwithstanding the oversimplified approach to profiling that informs many of the chapters, the authors do mention that as simple as profiling may sound conceptually, there are difficulties involved. How are case mixes determined? What is the best way to profile physicians fairly taking into account such factors as the varying severities of illness of their different patient populations? These are difficult question that present challenges for the statisticians and those whose responsibility it is to keep the MCOs, hospitals, and medical groups competitive. As these various entities compete for contracts, profiles and outcomes are critical in maintaining the success of provider groups.

There are certain aspects of profiling that can be harmful. For instance, economic credentialing can handicap a physician as can a breach of confidentiality. The point is also made that profiling has not always been shared with physicians and it must be if it is to be useful. Even when physicians get their profile printouts they don't always know how to interpret them. Focused remedial education is an important adjunct to profiling. Furthermore, there are serious legal implications of profiling: subpoenaing a physician's profile—particularly if it contains malpractice records that can be used against him or her—is a real concern in malpractice litigation. Others believe that by demonstrating adherence to a national standard of practice—guidelines, one of the goals of profiling—a physician's chance of overturning allegations of negligence are markedly improved.

The last section of the book deals with profiling as experienced by a managed care organization, a hospital, a large medical group practice, an academic health center, the Department of Veterans Affairs, and a pharmaceutical benefits manager. All agreed that profiling is necessary to improve efficiency and lower costs. The Department of Veteran Affairs, which incorporated the VA's 22 integrated networks nationally into their profiling system, reported that one of their biggest challenges was working with primary care providers to give them some control over specialty utilization.

There are a multitude of little subchapters in this book that clinicians will have a hard time remembering when they are talking to a sick patient and deciding on a course of treatment. Terms like case mix, severity adjustment, resource-based *vs* physiology-based adjustment, prescriber summary reports, and cross-environment data integration seem completely foreign to the practice of medicine.

The authors could have spent more time on the difficulties and practicalities of medical practice and how clinicians and patients are supposed to interact with all this data-collecting and profiling going on. None of them discussed sufficiently the pressures that all this data collecting and profiling presents for doctors and how it will affect medical practice. Nor did anyone mention that with different MCOs each creating its own data bases and working with its own formularies, the risk is real that physicians may be reduced to medical drudges living in fear of being deselected from their hospital or HMO. If patients are complaining that doctors don't spend enough time talking to them now, how much worse will it be when their doctors are constantly worried about maintaining a good profile? How to solve this dilemma of controlling costs and changing physician's behavior and yet maintaining medicine's professionalism is a problem this book has not answered satisfactorily.

Profiling may be necessary, but how much profiling? That's the question. Someone once said that you have to do too much of something to discover how much is enough. My impression from this book is that we are still in the stage of doing too much.

Edward J. Volpintesta, M.D.
Bethel

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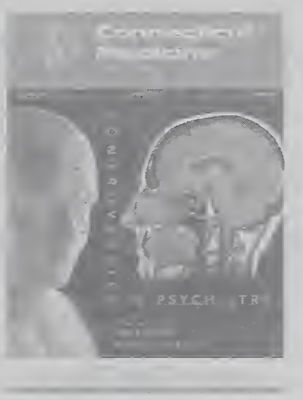

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Please replace the Table of Contents page in the June issue of Connecticut Medicine with this corrected page.

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Vol. 64, No. 8 *The Journal of the Connecticut State Medical Society* **August 2000**
160 St. Ronan Street, New Haven, CT 06511 (203) 865-0587

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Validation of A Staging System for Evaluating Prognosis in Prostate Cancer

DAREN R. ANDERSON, M.D., SUJATA PATIL, M.P.H., AYUMI KAMINA, M.P.H.,
DAVID F. PENSON, M.D., PETER PEDUZZI, Ph.D., AND JOHN CONCATO, M.D.

ABSTRACT—*Background:* The purposes of our research were to validate a previously published clinical-anatomic staging system for evaluating prognosis in prostate cancer and to explore the predictive ability of additional factors. *Methods:* All patients diagnosed with prostate cancer by physicians affiliated with Yale-New Haven Hospital during 1991 were eligible for the study. Patient and tumor characteristics at baseline were extracted from medical records with up to five-year follow-up for mortality. The original system was validated using Cox proportional hazards analysis and conjunctive consolidation. Prostate specific antigen (PSA) and Gleason score were also explored as factors to be included in an updated staging system. *Results:* Five-year survival was 76% among 121 patients included in the study. The original staging system, when applied to the current cohort, was validated: Five-year survival ranged from 100% (low-risk) to 27% (high-risk). PSA and Gleason score were associated with survival but did not change results substantially in this population. *Conclusion:* By predicting distinct mortality outcomes in men with prostate cancer, prognostic staging systems can be used to help patients and physicians make informed treatment decisions.

Introduction

IN 1999, prostate cancer was diagnosed in approximately 179,300 men and accounted for 37,000 deaths, making it the second leading cause of cancer death in men. By age 65, men are estimated to have a cumulative probability of dying from prostate cancer of 4.1%.[1] Despite this burden of mortality, many men will develop clinically occult prostate cancer during their lifetimes. For example, incidental foci of prostate cancer were found at autopsy in 12/17 (67%) men over age 80,[2] and incidental cancers were found at autopsy in the prostates of 17/50 (34%) men in their forties.[3] With the advent of prostate specific antigen (PSA) testing and its widespread use as a screening tool, a large increase in the incidence of prostate cancer has been observed in the past decade.[4]

Various treatment modalities, including surgery and radiation therapy, are commonly used in the United States for patients with localized prostate cancer. The exact benefits of these treatments are uncertain, however, and they can have a significant negative impact on quality of life.[5–7] Accordingly, it is desirable to determine accurately which patients could benefit from aggressive treatment. Current methods to distinguish between indolent and aggressive disease at the time of diagnosis often rely on only one of several factors. For example, the tumor-node-metastasis (TNM) staging system is based solely on ana-

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DAREN R. ANDERSON, M.D., Departments of Medicine, Yale University School of Medicine, New Haven; SUJATA PATIL, M.P.H., Epidemiology and Public Health, Yale University School of Medicine, New Haven; AYUMI KAMINA, M.P.H., Epidemiology and Public Health, Yale University School of Medicine, New Haven; DAVID F. PENSON, M.D., Urology, Yale University School of Medicine, New Haven; PETER PEDUZZI, Ph.D., Cooperative Studies Program Coordinating Center, West Haven Veterans Affairs Medical Center, West Haven; JOHN CONCATO, M.D., From the Clinical Epidemiology Unit, West Haven Veterans Affairs Medical Center, West Haven; Department of Medicine, Yale University School of Medicine, New Haven.

Dr. Penson was a fellow in the Robert Wood Johnson Clinical Scholars Program, supported by the Department of Veterans Affairs (VA). Dr. Concato was supported by a Career Development Award from the VA Health Services Research and Development Service.

Ms. Patil is now with the School of Public Health, University of Michigan. Dr. Penson is now with the Seattle Veterans Affairs Medical Center and the University of Washington.

tomic characteristics of the tumor and does not take into consideration other potentially important prognostic factors, such as the presence of symptoms or comorbid illnesses.

Several investigators[8–13] have attempted to develop more accurate prognostic staging systems for prostate cancer by evaluating various additional factors. One comprehensive clinical-anatomic staging system[14] used morphologic staging with other host factors, including age, comorbidity, and presence of symptoms, and predicted mortality more accurately than anatomic staging alone. This approach to staging has also been shown to be clinically useful in predicting outcome among patients with other types of cancer.[15–25] The prostate cancer staging system has not been validated in an independent study sample, however, and it did not incorporate Gleason score or PSA levels (the PSA test was not available clinically at the time).

The primary objective of our study was to validate the previously published clinical-anatomic staging system[14] using a cohort of patients diagnosed in the PSA "era." A secondary objective was to explore the possibility of using Gleason score and PSA levels to improve prognostic estimates. Our goal was to demonstrate how a simple instrument can predict distinct mortality outcomes using the relevant clinical data available at the time that treatment decisions are made.

Methods

Cohort identification and data collection.—We first identified a cohort of all patients diagnosed with prostate cancer in the calendar year 1991 at Yale-New Haven Hospital (YNHH), a large, tertiary care referral medical center which also serves as a primary hospital for the greater New Haven region. Men with a new diagnosis of prostate cancer were identified in both the inpatient and outpatient settings. All patients in the hospital's tumor registry with pathologically confirmed adenocarcinoma of the prostate were eligible for inclusion. All data were recorded on a standardized data abstraction form using criteria adapted from the prior clinical-anatomic staging system,[14] and included information from the offices of treating urologists, referring community physicians, outside laboratories, the hospital, and the affiliated West Haven Veterans Affairs Medical Center.

Defining zero-time.—The data for each patient were collected from the earliest record until "zero-time," defined as the day in which treatment for prostate cancer was begun or on which a decision was made to forego treatment (and pursue a strategy of "watchful waiting"). In cases for which such information was missing, zero-time was defined as the date on which a histological diagnosis of prostate cancer was made. With the exception of survival data, all information included in the analysis was obtained prior to zero-time.

Candidate prognostic factors.—Data were collected regarding patient demographic characteristics, physical examinations, radiographic studies, serum PSA levels, Gleason score, clinical stage, cognitive function, levels of physical functioning, comorbid medical conditions, and treatments employed. Data were also collected regarding the presence of symptoms classified in categories of urinary, metastatic (including bone pain, pelvic pain, rectal pain, or neurological abnormalities), and systemic (defined as weight loss of greater than 10% of baseline weight, anorexia, or weakness). Information on comorbidity was gathered using the method described by Charlson et al.[26] In the eight subjects for whom a clinical stage was not noted in the medical record, a category was assigned by the reviewer based on available information.

Exclusion criteria.—The Yale Tumor Registry provided an initial list of 158 patients, representing all patients with prostate cancer who were seen at YNHH or its affiliated clinics in 1991. From this list, 27 patients were ineligible because their zero-time event occurred during 1990 or 1992, three patients had zero-time events occurring at an outside institution or unaffiliated doctor's office, and two patients lacked a histologically confirmed diagnosis of adenocarcinoma of the prostate. Among the remaining 126 eligible men, four (3%) were excluded due to missing or insufficient data. Because long-term survival was the outcome of interest, one patient (1%) who died within a week of zero-time was also excluded. The final cohort consisted of the remaining 121 men (96%).

Follow-up.—Five-year survival was the focus of analysis because it was used in the original staging system[14] and is commonly cited when evaluating therapy for cancer. Follow-up information was therefore obtained for up to five years after zero-time, with censoring at the date of last known contact. Data from the Connecticut Department of Vital Statistics confirmed all deaths. For surviving patients, the dates of last contact for follow-up were provided by the Yale Tumor Registry database.

Statistical methods.—We first examined the univariate distribution of all variables for coding errors and maldistributions. We then conducted bivariate analysis using variables as coded in the original staging system. In addition, we examined the independent associations of Gleason score and PSA levels with mortality.

Second, we combined the variables used in the original staging system according to the criteria reported by the original investigators,[14] and also conducted a proportional hazards analysis (Cox regression), to validate the predictive ability of the staging system in our cohort of patients. The main results are reported as the proportion of patients in each clinical-anatomic stage who survived for five years.

Table 1.—Baseline Characteristics of 121 Patients

Characteristic	N	(%)
Age:		
<70 years	65	(54%)
(average age: 68.7 years)		
Race:		
White	107	(88%)
Black	13	(11%)
Hispanic	1	(1%)
Method of detection:		
PSA screening	17	(14%)
Screening rectal exam	28	(23%)
Differential diagnosis	57	(47%)
Incidental diagnosis	10	(8%)
Unknown or other	9	(7%)
Stage of cancer:		
A or B	97	(80%)
C	10	(8%)
D	12	(10%)
Unknown	2	(2%)
Symptoms:		
Urinary	75	(62%)
Systemic or metastatic	15	(12%)
Therapy:		
Radical prostatectomy	51	(42%)
Radiation therapy	31	(26%)
Hormonal manipulation	26	(21%)
No treatment	13	(11%)

Third, the additional predictive ability of information on PSA levels and Gleason score was assessed using the method of conjunctive consolidation[16] and confirmed with proportional hazards analysis.

Results

Patient characteristics and treatment.—Baseline characteristics of the 121 patients (Table 1) included an average age of 69 years. Of the patients, 107 (88%) were white, 13 (11%) black, and one (1%) Hispanic. The majority had early stage (localized) disease, with 80% (n=97) having clinical stage A or B. Overall, 75 (62%) had urinary symptoms at zero-time and 15 (13%) had systemic or metastatic symptoms including bone, pelvic, or rectal pain; neurological abnormalities; weight loss; anorexia; fatigue; or generalized weakness which was felt to be possibly or likely attributable to the patient's cancer. Nearly all patients had intact cognitive function and were independent with regard to their level of physical functioning and ability to carry out activities of daily living.

Fifty-one men (42%) underwent radical prostatectomy, 31 (26%) had radiation therapy, 26 (21%) were treated with hormonal manipulation (either by surgical orchiectomy or hormonal injection), and 13 (11%) had no treatment.

Survival.—The 29 deaths in the cohort represent a five-year cumulative survival of 76%. Complete follow-up data were available for 96% of the patients at three years, 88% at four years, and 64% at five years.

Bivariate analysis.—In a bivariate (unadjusted) analysis of baseline prognostic factors (Table 2), a statistically significant association was found between overall mortality and Gleason score, clinical stage, presence of systemic or metastatic symptoms, and comorbidity. PSA level (in ng/mL) was also associated with increased mortality among subjects (n=107) with known PSA values (data not shown), but the relationship of PSA and mortality was nonmonotonic for the categories of ≤ 4.0, 4.1-10.0, 10.1-20.0, > 20.0 (Table 2). In addition, the lack of a known PSA level prior to zero time in 11% (n=13) of patients was associated strongly with mortality. Factors not found to be associated with outcome in our cohort included patient's race, functional status, cognitive status, and the presence of urinary symptoms.

Validation of the clinical-anatomic staging system.—According to data from the current cohort, which was analyzed in a manner consistent with the previously published study (Table 3),[14] the four strata of patients had five-year survival rates of 100% (44/44), 74% (31/42), 54% (13/24), and 27% (3/11) (Table 4). The composite staging system variable was also strongly associated with mortality in proportional hazards analysis ($P < 0.001$; quantitative data not shown).

Impact of PSA and Gleason Score.—PSA data have not been included in subsequent analyses because of missing information and few outcome events within categories of PSA levels. Although an updated staging system that includes Gleason score was developed, the results were similar to the existing system (data not shown) and therefore have not been reported.

Discussion

A prognostic score derived from a combination of anatomic stage, presence of systemic or metastatic symptoms, age, and comorbidity produced groups of patients with five-year survival ranging from 100% to 27%. Thus the original Yale staging system[14] was validated using patients in the PSA era. This system can be used to: 1) provide patients and physicians with estimates of survival, 2) help define eligibility criteria for clinical trials, 3) compare data on survival for subjects "across" different studies, and 4) assist patients in selecting appropriate therapy. In particular, in addition to several ongoing randomized trials to inform treatment decisions in prostate cancer, observational studies will continue to be conducted and published in the future, and the Yale staging system can help to evaluate the validity and generalizability of such investigations.

The original staging system combined anatomic characteristics and symptomatic manifestations of the cancer with host factors such as age and comorbidity to create a composite prognostic score. From this score, a four-level staging system identified patients with five-year survival ranging from 91% (high-risk) to 8% (low-risk), and predicted outcomes more accurately than the conventional staging system based on anatomy of the tumor alone. The system was developed in a cohort of patients from 1973 to 1976, but this analysis was done prior to the advent of PSA screening. In addition, treatment was conservative at that time and patients tended to be older and sicker than the men seen today.

Our cohort consisted of patients with prostate cancer detected in 1991. As expected, significant differences were found between the two cohorts. The majority of our patients had localized disease: 89%, as compared to 37% in the original Yale cohort. Our patients were slightly younger with an average age of 69 compared with 70 years. Sixty-eight percent of the men were treated aggressively with either radiation therapy or radical prostatectomy in our cohort, compared to 25% in the prior study. Five-year survival was 76% for the new cohort, as compared to 58% in the old cohort, reflecting, at least in part, an earlier stage at diagnosis (lead-time effect). Despite these differences, both studies found that anatomic stage, comorbidity, and the presence of systemic or metastatic symptoms were significantly associated with mortality.

In updating and refining the original staging system, we found Gleason score to be strongly associated with survival. This result is consistent with prior studies that found Gleason score to predict disease relapse in patients who have undergone radical prostatectomy[127–29] or radiation therapy.[8,9,30.31] In addition, a large, population-based sample of untreated or conservatively treated patients with prostate cancer identified Gleason score as the factor most strongly associated with survival.[32,33] By incorporating Gleason score into the original prognostic scoring system, we could produce a new four-level staging system that identified patients with five-year survival ranging from 96% to 29% (details not shown). These results are similar to those obtained when using the original system; future research with larger sample sizes may be needed to demonstrate the full impact of Gleason score.

Table 2.—Bivariate association of prognostic factors and mortality (n=121).

Prognostic Variable	**Five-Year Survival**		***P*-Value**
	n/N	(%)	
Gleason score:			<0.001
2–4	8/10	(80%)	
5–7	75/89	(84%)	
8–10	8/21	(38%)	
Unknown	0/1	(0%)	
Clinical stage:			<0.001
A or B	86/97	(89%)	
C	4/10	(40%)	
D	1/12	(8%)	
Unknown	0/2	(0%)	
Systemic or metastatic symptoms:			0.001
Present	6/15	(40%)	
Not present	85/106	(80%)	
Comorbidity:			0.02
0	51/60	(83%)	
1	22/28	(79%)	
≥ @	19/33	(58%)	
PSA level:			0.002
0.1–4.0	11/13	(85%)	
4.1–10.0	21/22	(96%)	
10.1–20.0	27/32	(84%)	
>20.0	27/42	(64%)	
Unknown	5/12	(42%)	

P values calculated using chi-square test (or Fisher Exact if cells < 5).

Table 3.—Yale scoring system used to calculate an overall prognostic score (see ref. 14).

Composite Variable	Score
Axis I: Anatomic extent of cancer	
Intracapsular	0
Extracapsular without dissemination	1
Disseminated	2
Axis II: Clinical manifestations related to cancer	
No manifestations related to cancer	0
Urinary manifestations only	2
Metastatic or systemic manifestions	4
Axis III: Host factors	
Age < 70 years and insignificant comorbidity	0
Age ≥ 70 years and insignificant comorbidity or moderate comorbidity in any group	2
Severe comorbidity in any age group	4

Prior studies have found PSA levels to predict independentlyfuture disease recurrence in patients receiving radiation therapy,[8,9,30,31] radical prostatectomy,[27,28,34] or hormonal therapy.[35] In the current study, patients with a PSA level greater than 20 ng/mL had a statistically significant decreased five-year survival. In patients with PSA less than or equal to 20 ng/mL, however, a nonmonotonic relationship was found for PSA subgroups (≤ 4.0, 4.1-10.0, 10.1-20.0, > 20.0 ng/mL) and mortality. This finding may reflect the impact of another factor (eg, comorbidity) or it may indicate that PSA levels in this range are not useful predictors of outcome. A specific problem with PSA in this study was the large number of patients (11%) for whom the test was not performed. The patients with unknown PSA had relatively high mortality (46% five-year survival), perhaps because patients thought to have more advanced disease in 1991 were less likely to have PSA measured.

The current investigation is analogous to recent studies demonstrating the use of a combination of clinical stage, PSA levels, and Gleason score to predict pathological stage.[36–38] In addition, relapse of disease in patients undergoing radiation therapy has been predicted by combining these same three factors.[8,9] Previous studies have not, however, dealt with the ability of such factors to predict survival.

Table 4.—Validation of original Yale staging system (see ref. 14) using current study population (N=121).

Prognostic Score	Alive/Total (%)
0–2	44/44 (100%)
3–5	31/42 (74%)
6	13/24 (54%)
7–10	3/11 (27%)
All patients	91/121 (75%)

Chi-square for linear trend = 33.4; $P < 0.001$

Although this study was not designed to answer questions about the efficacy of different treatments, the role of prognostic staging systems in assessing patterns and outcomes of therapy is important. In exploratory analyses (data not shown), we found, as expected, that type of treatment had an apparent association with outcome; survival for the "surgery" group was better than for the "radiation" or "hormonal therapy" groups. As with the original Yale study,[14] these observed relationships are a demonstration of susceptibility bias, with healthier, earlier stage patients more likely to receive radical prostatectomy, and later stage or less healthy patients more likely to receive radiation therapy or hormonal manipulation. In this context, the data also demonstrate that type of therapy does not explain the mortality gradients produced by the staging system itself.

Two limitations of this study warrant discussion. The PSA test has been in widespread clinical use only since 1991 and we were therefore limited to five-year follow-up. Some prostate tumors are indolent and slow-growing and it may take much longer to see differences in survival among the healthier patients with earlier stage disease. In addition, our study size was relatively small, with a total of 29 deaths among 121 patients. This limited number of outcomes likely reflects younger, healthier, earlier stage patients making up the majority of men diagnosed with prostate cancer today. By validating the original Yale staging system, however, the results effectively represent a larger sample size from both studies combined.

In summary, this investigation has validated a prognostic staging system for prostate cancer which combines traditional anatomic staging with host factors including age, comorbidity, and the presence of systemic or metastatic symptoms related to prostate cancer. The staging system has superior predictive ability compared with the traditional TNM system. Because prostate cancer is a disease with a potentially long latency period, the negative effects of the malignancy may not be experienced for years, if at all, but the negative impact on quality of life from commonly employed therapies can be immediate. It is therefore important to provide patients with appropriate information regarding the prognosis of their disease prior to selecting aggressive treatment. Prognostic staging systems can also provide clinicians and researchers with a more accurate assessment of likely clinical outcomes among men diagnosed with any stage of prostate cancer.

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Obstructive Sleep Apnea, Polysomnography, and Split-Night Studies:

Consensus Statement of the Connecticut Thoracic Society and the Connecticut Neurological Society

ABSTRACT—Obstructive sleep apnea is a state-dependent syndrome. It is characterized by repeated collapse of the upper airway as the result of the loss of waking neuromuscular drive as the brain changes from wakefulness to sleep. This produces a state-dependent decrease in muscle tone, which, together with other predisposing factors such as obesity and anatomical narrowing of the upper airway, results in the spectrum of sleep disordered breathing. Sleep-disordered breathing describes the continuum from simple snoring (pharyngeal vibration), to flow limitation (hypopnea), to complete cessation of breathing (apnea). Obstructive sleep apnea (OSA) is the common description of what is now appreciated as the sleep apnea/hypopnea syndrome.

The cardinal symptoms are snoring, observed apneas, and excessive daytime sleepiness. The immediate physical consequences are hypoxia, repeated sympathetic discharges, increased cardiac load, and repeated brain arousals. The repetitive arousals are required to restore airway patency, resulting in severely fragmented sleep and consequent sleep deprivation. The syndrome, untreated, produces significant cognitive and cardiorespiratory morbidity, and potential mortality.[1] Compared to matched controls, patients with undiagnosed sleep apnea use twice the health resources and spend double the health-care dollars in the 10 years prior to diagnosis.[2,3] Both trends are reversed by successful treatment.[4] It is by definition a sleep-related illness and can be observed and evaluated only when the patient is asleep.

Polysomnography is the laboratory procedure to study sleep and its protean dysfunctions. Multiple physiologic parameters are required to document the various types of sleep disorders as well as to establish the origin of pathologic sleep fragmentation. Complete polysomnography includes (but is not limited to) electroencephalogram (EEG), electro-oculogram ((EOG), electromyogram (EMG), electrocardiogram (ECG), respiratory effort, air flow, and oxygen saturation.

Treatment options for obstructive sleep apnea include continuous positive airway pressure (CPAP), oral appliances, uvulopalatal and/or maxillomandibular surgery, positional control, and weight loss. The efficacy of each depends on the individual anatomy and the severity of the sleep-disordered breathing.[5–9] CPAP is accepted as the most reliable treatment regardless of anatomy and severity.[9] It is currently the only treatment modality which can be titrated during sleep and requires simultaneous polysomnography.

On 20 March 2000, this policy statement endorsement by sleep specialists throughout the State was sent to medical directors of insurance carrriers.

The *Connecticut Thoracic Society* and the *Connecticut Neurological Society* have issued a joint consensus statement regarding obstructive sleep apnea, polysomno-graphy, and split-night studies. The medical directors listed below support that statement. A split-night titration requires documentation of sleep-disordered breathing and documentation of effective treatment in specific sleep stages (REM) and position (supine). A second full night of CPAP titration is indicated if the patient has not completed a successful split-night protocol.

We wish to emphasize that none of the sleep centers or sleep laboratories listed below split all studies or considered all patients candidates for split-night protocols. Each of the facilities follows data-based decision-making protocols, consistent with the guidelines described in the American Sleep Disorders Association practice parameter, and supported by the Connecticut Thoracic Society and the Connecticut Neurological Society.

Given the broad statewide consensus supporting the national practice parameter, we believe that this represents the standard of care. (Original signatures from the medical directors listed below are on file at the Connecticut Thoracic Society.)

Marc Kawalick, M.D., New Britain General Sleep Disorder Center, Chairman, Connecticut Thoracic Society Sleep Disorders Section.
Arthur Kotch, M.D., Danbury Hospital Sleep Disorder Center.
Herbert Knight, M.D., Hospital of St. Raphael.
Andre Lerer, M.D., New Britain General Sleep Disorder Center.
Stuart McCalley, M.D., Sleep Laboratory at Greenwich Hospital.
Daniel McNally, M.D., University of Connecticut Health Center.
Mark Metersky, M.D., University of Connecticut Health Center.
Vahid Mohsenin, M.D., Yale University Center for Sleep Disorders.
Edward O'Malley, Ph.D., Norwalk Hospital Sleep Disorder Center.
Joel Papowitz, M.D., Norwalk Hospital Sleep Disorder Center.
Charles Polnitsky, M.D., Regional Sleep Laboratory at Waterbury Hospital.
Herbert Scherzer, M.D., St. Francis Hospital Sleep Laboratory.
Richard Shoup, M.D., Manchester Hospital Sleep Laboratory.
Barry Spass, M.D., New Britain General Sleep Disorder Center.
Jolyon Tucker, M.D., Hartford Hospital Sleep Laboratory.
Brett Volpe, M.D., Prime Health Care Sleep Disorder Center.
Charlos Fragosa, M.D., Gaylord Sleep Services.
Susan Rubman, Ph.D., Hospital for Special Care.

Sleep Physiology, Body Position, and OSA

Sleep is defined by four stages of progressively deeper sleep (stages 1–4 nonREM sleep) punctuated by one anomalous sleep stage (REM). REM sleep is generally known as dream sleep but it is its unique physiologic characteristics that are important in the evaluation of OSA.

REM sleep is characterized by atonia (absence of muscle tone). The atonia of REM is a protective brainstem phenomenon to prevent potentially violent and injurious motor activity during dreams.

During REM, sleep motor tone reaches its lowest level of the night. Collapse of the upper airway, which characterizes OSA, is greatest when motor tone is the lowest, eg, REM. In addition, the accessory muscles of respiration are effectively *paralyzed* in REM, leaving only the diaphragm to accomplish ventilation. The result is that apneas and hypopneas (partial collapse resulting in changes in flow and associated desaturation and/or arousal) are most frequent in REM and desaturation is most severe. In fact, significant OSA and/or desaturation may be observed only in REM sleep, at which time the changes can be severe.[16]

Body position is an important variable in patients with OSA. Specifically apneas, hypopneas, and desaturation are worse in the supine position.[20] This is a mechanical phenomenon reflecting posterior positioning of the tongue resulting in greater upper airway occlusion, and the pressure effect of the abdominal contents restricting full diaphragmatic excursion. Both are further exacerbated during REM sleep when the genioglossus muscle tone is reduced and subject to gravitational forces and when the diaphragm is the only remaining muscle of ventilation.

The evaluation of possible sleep-disordered breathing and the assessment of adequate CPAP pressure requires observation in REM, observation supine, and observation in REM/supine.[9–20] These requirements are reflected in the ASDA Practice Parameter.[10]

Full-Night *vs* Split-Night Polysomnography

A full-night diagnostic study and a full-night CPAP titration study have been, and continue to be, the accepted gold standard.[10] In an attempt to reduce costs and increase efficiency, many sleep laboratories perform split-night studies in accordance with specific protocols. In a split-night study, the diagnostic polysomnogram and the CPAP titration study are condensed into a single night. The goal is to establish the diagnosis of obstructive sleep apnea early in the night and proceed to CPAP treatment.

Proponents of split-night studies argue that single-night studies can document the severity of sleep apnea and determine effective CPAP pressures. They point out the potential cost savings, increased efficiency, and expedited treatment.[12]

Opponents of split-night studies argue that procedures "done with the dual objective of diagnosis and therapy represent a compromise in the standard of care and often fall short of accomplishing either goal."[13] The study becomes a race to diagnose and treat in a situation that requires the accumulated observation of physiologic variables that are not predictable in a fixed time period. Sleep apnea is typically worse at the end of the night and may not be evident until the appearance of REM sleep.[14–16] The diagnosis and treatment decisions are made by the night technician prior to any review by the interpreting physician. The technician's decision-making is influenced by the time limitation resulting in both diagnostic error and under and over titration. A substantial percentage of patients who complete a sp lit-night titration will require additional adjustment in the level of positive pressure, patient device interface, or positive pressure modality after a partial night therapeutic trail.[17,18] There are no prospective double blind studies with objective measures of compliance following full-night *vs* split-night studies.

Practical Considerations

OSA is a sleep-related syndrome. Patients must be studied when they are asleep and yet they cannot be artificially sedated as that will alter the results.

Time requirements are not possible to control as it is impossible to predict how the patient will sleep or adapt to CPAP. During a split-night study, the patient must be awakened to introduce the CPAP interface. The patient then needs to adjust to the mask and the sensation of pressure support ventilation.

Five hours of sleep time (not total study time), including two hours of diagnostic monitoring and three hours of CPAP titration, are necessary to meet the minimum requirements outlined in the ASDA practice parameter (see below).[10]

ASDA Practice Parameter

In 1997, The American Sleep Disorders Association (ASDA), now the American Academy of Sleep Medicine, the accrediting organization for Sleep Centers and Sleep Related Breathing Disorder Laboratories, published Practice Parameters for the Indications for Polysomnography and Related Procedures.[10] The recommendations regarding polysomnography and split-night studies outlined in the ASDA Practice Parameter followed review of all the published data on split-night studies.[11] The recommendations as they apply to this discussion are excerpted as follows.

Polysomnography is routinely indicated for the diagnosis of sleep-related breathing disorders. For most patients, full-night polysomnography is recommended for the diagnosis of sleep-related breathing disorders.

Polysomnography is indicated for continuous positive airway pressure (CPAP) titration in patients with sleep-related breathing disorders.

1. A full-night of polysomnography with CPAP titration is recommended for patients with a documented diagnosis of a sleep-related breathing disorder for whom CPAP is warranted.
2. Polysomnography with CPAP is appropriate for patients with any of the following polysomnographic results:
   - A. An apnea index (AI) of at least 20 per hour or an apnea-hypopnea index (AHI) of at least 30 per hour regardless of the patient's symptoms.
   - B. AHI of at least 10 per hour in a patient with excessive daytime sleepiness.
   - C. A respiratory arousal index of at least 10 per hour in a patient with excessive daytime sleepiness.
3. For CPAP titration, a split-night study (initial diagnostic polysomnogram followed by CPAP titration during polysomnography on the same night) is an alternative to one full night of diagnostic polysomnography followed by a second night of titration if the following four criteria are met:
   - A. An AHI of at least 40 is documented during a minimum of two hours of diagnostic polysomnography. Split-night studies may be considered at an AHI of 20 to 40, based on clinical judgment (eg, if there are also repetitive long obstructions and major desaturations). However, at AHI values below 40, determination of CPAP pressure requirements, based on split-night studies, may be less accurate than full-night calibrations.
   - B. CPAP titration is carried out for more than three hours (because respiratory events can worsen as the night progresses).
   - C. Polysomnography documents that CPAP eliminates or nearly eliminates the respiratory events during REM and nonREM (NREM) sleep, including REM sleep with the patient in the supine position.
   - D. A second full-night of polysomnography for CPAP titration is performed if the diagnosis of a sleep-related breathing disorder is confirmed but the criteria B and C are not met.

Joint Consensus Statement of the Connecticut Thoracic Society and the Connecticut Neurological Society

Split-night studies and full-night studies are not equivalent. Full-night diagnostic studies provide a more complete assessment of sleep-disordered breathing and are more likely to appreciate the possibility and relevance of a second diagnosis. A full-night CPAP titration is more accurate in a significant percentage of patients. Sleep initiation, sleep stages, position, and adaptation to CPAP are not possible to control limiting the application of a time based protocol. Full-night diagnostic polysomnography followed by a full night of CPAP titration is the accepted gold standard and is the recommended method of evaluation and treatment of sleep-disordered breathing.

For CPAP titration, a split-night study is an alternative to one full-night of diagnostic polysomnography followed by a second night of titration when the described requirements for diagnosis and treatment are documented. A split-night approach is optimal in cases of severe obstructive sleep apnea and/or when treatment is deemed to be medically urgent. The decision to interrupt the diagnostic portion of the study and begin a CPAP titration can only be made at the time of the study when it is clear that the parameters for diagnosis have been fulfilled.

Whenever possible, the patient should be fitted with a comfortable CPAP mask and accommodated to a modest CPAP pressure prior to the study to maximize acceptance and compliance during the study.

Physicians who request a split-night study should appreciate that they are ordering a protocol. There is no guarantee that the study will be split, or that the CPAP titration arm of the study will be adequate to document the necessary treatment pressure. The patient may never meet the criteria for the diagnosis of OSA, or may develop signs of significant sleep-disordered breathing at a point in the night beyond the time allowable to initiate a CPAP titration. The patient may require a second study. If a second study is required, the reason should be clearly stated by the interpreting physician.

There are insurers who approve only split-night studies or define policy benifits that cover only a single night of study. These insurers may or may not provide coverage for a second study if it is deemed necessary by the interpreting and/or treating physician. It should be clear that the standard of care requires certain elements of diagnosis and documentation of adequate treatment. An insurance carrier that fails to approve or provide coverage for a second night of study in a patient who has documented sleep-disordered breathing and has not completed a successful split-night study, does not provide medical coverage consistent with the standard of care.

The Connecticut Thoracic Society and the Connecticut Neurological Society endorse the ASDA Practice Parameter recommendations for polysomnography and split-night studies.

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Abstracts of Papers: Danbury Hospital 15th Annual Joseph L. Belsky, M.D., Research Day

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Detection of Human Papilloma Virus Infection in Cervical Specimens Using a Hybrid Capture Human Papillomavirus DNA Test Method at Danbury Hospital

PRATIBHA S. SHUKLA, M.D., ELIZABETH CARR, MICHELLE CLARK,
LEONEL EDWARDS, M.D., AND FRANK BRAZA, M.D.
Department of Pathology and Laboratory Medicine

Human papillomavirus (HPV) is the most common sexually transmitted virus and approaches chlamydia infection as the most common sexually transmitted disease overall. There is a strong association of certain strains of HPV and cervical cancer. HPV infection alone is not sufficient to induce an immediate carcinoma because malignant tumors develop only after HPV-induced lesions persist for several months or even years. Cytologic screening by the Papanicolau test plays a major role in the early detection of these changes. Minor cytologic abnormalities of the cervix, such as atypical squamous cells of undetermined significance (ASCUS), are vastly more common than high-grade squamous intraepithelial lesions or invasive cancer. Therefore one of the limitations of the cytologic examination is that there may not be enough diagnostic cells or that the changes may be too early to detect.

Assays that detect HPV DNA when used in conjunction with the PAP smear are becoming an important source of information for the purpose of risk assessment, counseling, selection of therapy and follow-up. The hybrid capture test not only measures quantitative HPV load but also detects both: High-risk types (16,18,31,33,35,39,45,51,52, 56,58,59,68) and low risk types (6,11,42,43,44), thereby increasing the probability that serious cervical disease is not missed.

We recently implemented a hybrid capture HPV DNA assay at our institution which is used in conjunction with the Pap smear. Our study is a review of the testing results and correlation with biopsy performed at the time of the subsequent colposcopy.

From 1 January 2000 to 31 March 2000 a total of 167 patients who had a cytologic smear examination were tested using the hybrid capture system. Sixty (35%) were positive for high-risk HPV subgroup. Twenty-five (15%) were positive for low-risk HPV subgroup. Combined low risk and high-risk subgroup infection was found in 16 (9.6%) of the patients. On follow-up 20 patients underwent colposcopy and cervical biopsy procedure. Seventeen (85%) of these patients had ASCUS diagnosis on smears while three (15%) patients had only benign changes. Cervical intraepithelial neoplasia was the histologic diagnosis in five (25%) of the biopsies, six (30%) had a diagnosis of condylomatous cervicitis and nine (45%) chronic cervicitis. All five patients with CIN and five out of six patients with condylomatous cervicitis were positive for high-risk HPV strain. One case of CIN and two cases of condylomatous cervicitis were also positive for low risk strains of HPV. Three patients that tested negative had a subsequent negative biopsy. Four of nine cases with the histopathologic diagnoses of chronic cervicitis were positive for high-risk strains.

We conclude that the hybrid capture DNA assay in conjuction with the Pap smear is a very effective methodology for the detection of significant cervical disease. Although a positive assay resulted in our study in identifying lesions of HPV in subsequent biopsy, more important is the fact that there was 100% correlation in the absence of HPV DNA by the hybrid system and the absence of pathology in subsequent biopsy.

Clinical Professor of Pathology (Dr. Braza) New York Medical College

A Clinicopathologic Study of Eosinophilic Cholecystitis and a Retrospective Review of 1,000 Non-Neoplastic Cholecystectomies at Danbury Hospital

SYED KAZIMI, M.D., HOSSEIN ALAVI, M.D., HINA KAZIMI, M.D., AND HANI EL-FANEK, M.D.
Department of Pathology and Laboratory Medicine

Eosinophilic cholecystitis (EC) is an infrequent inflammatory disease of the gallbladder. Historically, EC is histologically diagnosed when the inflammatory infiltrate is: (i) transmural and (ii) composed predominantly of eosinophils so that their presence overshadows the presence of any other inflammatory cell component. Associations have been noted with acalculous cholecystitis, allergies, enteric parasitic infections and drugs. Individual authors have set the eosinophilic dominance criteria from at least 50% to at least 90% in order to diagnose the entity. We set a moderate criterion of 75% eosinophils as the cut-off and further categorized EC into "eosinophilic" and "acute-and-eosinophilic" cholecystitis, based on prevalence of eosinolymphocytic or eosinolymphocytic-neutrophilic inflammatory infiltrate, respectively.

This retrospective study reviewed the histopathologic features of 1,000 consecutive non-neoplastic cholecystectomy specimens from late 1997 to the end of 1999. The diagnoses were as follows: 662 cases of chronic cholecystitis (525 calculous), 261 acute-and-chronic cholecystitis (254 calculous), 54 acute gangrenous cholecystitis (42 calculous), 17 eosinophilic cholecystitis (all calculous), three chronic follicular cholecystitis (all calculous), two sub-acute cholecystitis (all calculous), and one case with non-specific changes. Diagnoses in 10 cases (eight cases of chronic and two of acute-and-chronic cholecystitis) were revised to "eosinophilic" and/or "acute-and-eosinophilic" cholecystitis using the above mentioned criteria.

A clinicopathologic review was done of the 27 patients with eosinophilic cholecystitis. Nineteen specimens were categorized as "eosinophilic" cholecystitis (seven with mild, 11 with moderate and one with severe eosinolymphocytic inflammation), and eight as "acute-and-eosinophilic" cholecystitis (six with moderate and two with severe eosinolymphocytic-neutrophilic inflammation), 26/27 cases had gallstones.

There were 22 females and five males (age range: 17 to 94 years; mean 42 years). Past medical history of allergies was documented in 9/27, and asthma in 3/27 patients. 7/22 females were postpartum and one was pregnant at the time of presentation and gallbladder resection. Presenting symptoms in most of the cases were right upper quadrant/ epigastric pain ± nausea. Duration of symptoms varied from a few hours to a few months prior to cholecystectomy. Labs showed leukocytosis in 7/27 cases, relative eosinophilia in 8/27, mildly elevated liver function tests in 6/27, and mild biliary pancreatitis (increased lipase) in 3/27.

In conclusion, we noted a 96% association of cholelithiasis with eosinophilic cholecystitis. This finding is in sharp contrast to previous reports. Considering that cholecystitis itself has a female preponderance, the same observation for eosinophilic cholecystitis is perhaps not significant. Postpartum period and history of allergies may contribute towards an increased incidence of this entity. However, none of our patients had clinically diagnosed enteric parasitic infections, and no drug-associated eosinophilia was seen. Our study also supports the infrequent occurrence of this histopathologic diagnosis.

Weighed Gleason Score of Prostate Carcinoma

K. KE LIN, M.D. AND HANI EL-FANEK, M.D.
Department of Pathology and Laboratory Medicine

Gleason's Score (GS) has been reported to be the most valuable prognostic factor for prostate carcinoma. However, its interobserver and intraobserver variability is extremely high. Furthermore, the GS unjustifiably overweighs secondary pattern by equally sum-up of two patterns while it ignores additional patterns of malignancy that exist frequently. The purpose of this study is to fairly evaluate different patterns of prostate carcinoma in an attempt to achieve a perfect scoring system.

One hundred and forty-eight cases with radical prostatectomy for prostate carcinoma from January 1995 to February 2000 at Danbury Hospital are reviewed. Patients ranged in age from 39 to 80 years (mean 62). Those patients who received TURP or hormonal therapy prior to surgery or had coexistent secondary primary tumors are not included in this study. On average, 80% of each prostate was submitted in paraffin blocks. The total area of tumor for each prostate is expressed as the sum of different tumor areas that are the squares of two perpendicular largest dimensions as described in literature. Percentage of each Gleason pattern is measured and a Weighed Gleason Score (WGS) is obtained by the sum of each pattern times its percentage such as 3 x 70% + 4 x 20 % + 5 x 10% = 3.4. Correlations of GS or WGS and adverse pathology events or advanced pathology events are performed. These pathology events include perineural invasion, extent of transcapsular penetration, seminal vesicle invasion, lymphovascular invasion, lymph node metastasis and positive surgical resection margin. Comparison between GS and WGS is also performed using a TNM stage, pT3, as end point.

Of 148 cases, 38 (26%) had single Gleason pattern of prostate carcinoma, 70 (47%) had two patterns, and 40 (27%) had three or more patterns. The GS ranged from three to nine and the WGS from 1.8 to 4.52. There is only weak correlation of the GS and adverse pathology events ($r = 0.365$) while correlation of the WGS and adverse pathology events is rather strong ($r = 0.55$). The WGS was found to have significant association with pT3 disease or advanced pathology events. Of 58 cases with GS 7 carcinoma, 22 (38%) had the same extent of disease as GS 6 group, while 14 (24%) of the GS 7 disease demonstrated their aggressiveness similar to GS 8 disease.

The WGS can clearly separate prostate carcinoma into four discrete groups. In contrast, the GS can only group the disease into two categories (GS less ≤ 6 or ≥ 7), since there is no significant difference between GS ≤ 5 and GS 6 or between GS 7 and GS ≥ 8 groups.

WGS provides accurate stratification of prostate carcinoma and reduces GS variability by incorporation of percentage of different Gleason patterns of prostate carcinoma. Our preliminary results show that weighed Gleason Scoring may be superior to the conventional Gleason Scoring in pathology evaluation and guiding clinical management of prostate carcinoma.

Postoperative Effects of Hypothermic Circulatory Arrest After Aortic Dissection Repair

DEEPAK SUDHEENDRA, B.A., ROCCO LAFARO, M.D., AND RICHARD MOGGIO, M.D.
Department of Cardiothoracic Surgery, Westchester Medical Center, NYMC

This four year retrospective study (1995–1998) was done to evaluate end organ damage in relation to circulatory arrest (CA) time in those patients who have undergone surgery for an acute type A aortic dissection. We hypothesize that the length of CA combined with deep hypothermia will be directly related to the amount and extent of end organ damage, in particular the incidence of stroke and other neurological sequelae.

CA time with deep hypothermia was reviewed from operative records of 35 patients to determine its effect on the extent and type of organ damage. Patients were classified as having organ damage if they experienced any organ failure or dysfunction for a postoperative period of at least 48 hours. Renal failure was classified as a BUN ≥ 25 mg/dl and Creatinine ≥ 2.0 mg/dl or the need for dialysis. Patients that underwent a tracheostomy for prolonged ventilatory support were diagnosed with respiratory failure. Evidence of myocardial infarction, congestive heart failure, or arrhythmias was defined as cardiac dysfunction. Stroke, memory loss, paralysis, and other clinically evident neuropsychiatric changes were associated with neurological dysfunction.

Neurological deficits were seen in 28.6% of the patients. Respiratory, renal, and heart failure were seen in 20%, 20%, and 11.4% of patients, respectively. While 22% of patients experienced neurological deficits at a CA time between 22 and 39 minutes, 36.4% developed neurological deficits as CA time exceeded 55 minutes. Respiratory failure reached a maximum (27%) as CA time surpassed 55 minutes. The age of onset of renal and respiratory failure was 37 and 41 years, respectively. Neurological deficits and heart failure had an age of onset of 48 and 52 years, respectively.

Data suggests that neurological sequelae are the most common type of organ dysfunction in the postoperative period. Although neurologic deficits increase with increasing CA times as hypothesized, respiratory failure appears to increase with CA time as well. While the incidence of neurological sequelae and cardiac failure is seen primarily in the older age groups, age does not appear to affect the incidence of renal or respiratory failure. Other factors including sex, hypertension, and coronary artery disease may have a significant impact on the maximum amount of time a patient can endure circulatory arrest and thus need to be further evaluated.

Professor of Surgery (Dr. Moggio), Assistant Professor of Surgery (Lafaro), Third year medical student (Deepak Sudheendra) New York Medical College.

Use of Voice Recognition Dictation for Report Generation in Nuclear Medicine: Experience at Danbury Hospital

ANIL RAMACHANDRAN, M.D., WILLIAM JOHNS, M.D., AND SHIV GUPTA, M.D.
Department of Pathology and Laboratory Medicine (Nuclear Medicine)

The final step in the completion of a nuclear study involves generating a written report to be sent to the ordering physician. Generation of scan reports has evolved considerably during the past 20 years. In earlier years, reports were handwritten and distributed. Subsequently reports were dictated on tape and transcribed (using a typewriter and later a word processor). More recently we have utilized a digital dictation system which allows access to the report prior to transcription. This system also utilizes computer editing and electronic physician signatures as well as automated faxing/printing. These features have improved the turnaround time of the procedures performed. During the last five months we have initiated a computer voice recognition (VR) dictation system which removes the transcriptionist from the report generating process. Below is a summary of the turn around times resulting from this system:

Results demonstrate a significant improvement in turn around time. The average time from ordering to finalizing a report has improved from 34.74 hours to 17.01 hours (an average decrease of 17.73 hours/report, 51% decrease in time), with no increase in errors with voice recognition. The system is able to learn speech patterns and accents and with time and proper training the accuracy is better than 95%. Physician time involved in the dictation is greater (approximately 5% to 10%). With the use of templates and training this is expected to improve. There has been cost saving with less transcription support being necessary. It is expected that as the technology improves within 10 years the majority of medical reports will be generated in this manner. The goal is to further improve the turnaround time and expedite patient care.

			Order-Finalize	Transcribe-Finalize	
	Month	**# Reports**	**Time (hrs)**	**Time (hrs)**	**%VR/%Transcribed**
	09/99	549	35.47	5.97	0%/100%
	10/99	514	33.93	9.83	0%/100%
(VR)	11/99	467	29.37	7.10	9%/91%
(VR)	12/99	491	31.13	4.13	66%/34%
(VR)	01/00	436	22.60	3.77	74%/26%
(VR)	02/00	332	16.82	0.32	100%/0%
(VR)	03/00	514	17.20	0.18	100%/0%

Clinical Professor (Dr. Gupta), Assistant Clinical Professor (Dr. Johns), University of Connecticut School of Medicine; Assistant Clinical Professor (Dr. Johns), New York Medical College.

Use of Indium-111 Pentetreotide (Octreoscan) Scintigraphy in the Evaluation of Carcinoid and Other Neuroendocrine Tumors

ANIL RAMACHANDRAN, M.D., WILLIAM JOHNS, M.D.,
SHIV GUPTA, M.D., AND KELLY CHASSE
Department of Pathology and Laboratory Medicine (Nuclear Medicine)

Neuroendocrine tumors are usually small and slow growing and thus may be difficult to detect using standard anatomic imaging modalities. Functional imaging using In-111 Pentetreotide (Octreoscan) has been available since 1995. In conjunction with tomographic imaging, this has proven to be a highly sensitive modality to detect small primary tumors or metastases.

Thirty-six patients had 42 Octreoscan studies performed at Danbury Hospital between January 1996 and April 2000. The majority of these scans were for carcinoid tumors (23/42=54%). Others included possible pheochromocytoma (4), gastrinoma (4), medullary thyroid cancer (3), islet cell tumor (1), and neuroblastoma (1). Of the carcinoid studies, 15 of 23 (65%) had positive scans with multiple sites of uptake. In 10 of these 23 (43%) several sites of involvement were detected which were not visualized on computerized tomography. In the 15 studies performed post treatment (surgery), eight (53%) were negative. Computerized tomography scans may show persistent abnormalities due to postoperative anatomic changes.

The literature reports that Octreoscan studies may lead to change in patient management in 31.1% of cases. Characterization and localization information provided by the scans may decrease the number of biopsies or other invasive procedures such as angiography. The diagnostic evaluation may also be modified as a result of the scans. In our institution the primary tumor being evaluated using this technique is carcinoid, however other tumors that may be detected include islet cell tumors, small cell lung cancers, paragangliomas, pituitary adenomas, pheochromocytomas, medullary thyroid cancers, and undifferentiated APUD tumors.

Octreoscan functional imaging is a sensitive tool to diagnose and determine the extent of disease as well as monitoring the effects of surgery, radiation therapy, or chemotherapy which may be difficult to evaluate using standard anatomic imaging modalities. It may also allow selection of optimal therapy based on tumor biochemistry.

Clinical Professor (Dr. Gupta), Assistant Clinical Professor (Dr. Johns), University of Connecticut School of Medicine; Assistant Clinical Professor (Dr. Johns), New York Medical College.

Isochromosome 1(q10) in Acute Megakaryoblastic Transformation of Chronic Myelogenous Leukemia

YAWEN TIEGERMAN, M.D., MARIO MEYER, M.D., LEONEL W. EDWARDS, M.D.,
JACQUELINE BURNS, PH.D., AND ROBERT KLOSS, M.D.
Departments of Pathology and Laboratory Medicine (Cytogenetics) and Medicine (Hematology)

Chronic myelogenous leukemia (CML) is an initially indolent disease, which may transform into an acute leukemia about two to five years after diagnosis. CML can transform into any of the acute leukemias including lymphoblastic and myelogenous leukemias. Acute megakaryoblastic leukemia arising from chronic myelogenous leukemia is rare accounting for approximately 2.7% in some series. Abnormalities of 3q21-3q26 are the most frequently cytogenetic aberrance found in megakaryoblastic transformations.

We present the case of a 64-year-old female who was diagnosed in 1993 with CML with the typical cytogenetic finding of t(9;22), a translocation which results in the Philadelphia chromosome. Continued cytogenetic monitoring did not reveal any additional chromosome anomaly until 1999 when an additional translocation between the short arm of chromosome 2 and chromosome 7 was found, consistent with clonal evolution. A concomitant bone marrow revealed an accelerated phase of chronic myelogenous leukemia as manifested by increased bone marrow cellularity and 9% blast count. The patient's condition continued to deteriorate with rising blast count in the peripheral blood over the next several months. The blasts were large with irregular, lobated nuclei, dense chromatin, scant basophilic cytoplasm and one to two conspicuous nucleoli. Flow cytometry evaluation of the gated peripheral blood blasts revealed prevailing expression of platelet glycoprotein antigen (GP IIb/IIIa) or CD41, characteristic of acute megakaryoblastic leukemia. No other markers of differentiation were detected. The bone marrow was repeated which revealed a hypercellular marrow mostly comprised of blasts (89%) with similar morphology as in the peripheral blood and areas of megakaryocytic differentiation. Cytogenetic evaluation of the bone marrow revealed the presence of an isochromosome involving the long arm of chromosome 1: i(1)(q10) in every cell analysed. The Philadelphia chromosome was also present but the t(2;7) translocation had disappeared.

Alterations of the long arm of chromosome 1 are frequent cytogenetic abnormalities found in human breast carcinoma and in transformation of hematologic malignancies. A Gene that codes for a specific cytoplasmic protein tyrosine phosphatase PTP or (HePTP) was recently mapped to chromosome 1q32.1 and is consider to play an important role in leukemic transformation. Changes in chromosome 1(q12-21qter) have also been reported in blasts crisis of hematologic disorders. To the best of our knowledge abnormalities of 1q10 have not been previously reported in transformation to acute megakaryoblastic leukemia. This may represent a yet unrecognized area of genetic importance for clonal evolution in chronic myelogenous leukemia.

Clinical Associate (Dr. Burns) University of Connecticut School of Allied Health

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Merkel Cell Carcinoma as a Second Tumor in a Patient With Multiple Myeloma

RAMIRO GARZON, M.D., CEZARINA MINDRU, M.D., HANI EL-FANEK, M.D.,
FRANK BRAZA, M.D., AND ROBERT KLOSS, M.D.
Departments of Medicine (Hematology/Oncology) and Pathology and Laboratory Medicine

Merkel cell carcinoma (MCC) is a rare and highly malignant skin neoplasm that mainly occurs in sun-exposed skin of the head and neck in the elderly. The cell of origin is thought to be the merkel cell, which is a cutaneous neuroendocrine cell. Cytogenetic studies have identified frequents aberrations of chromosomes 1, 11, 13 along with variable hypodiploid and hyperdiploid states.

We report a case of MCC as a second primary tumor in a patient with multiple myeloma (MM). The patient is an 80-year-old male with a history of IgG multiple myeloma diagnosed in 1996, treated with alkylating agents, who presented with an enlarging right knee mass in December 1999. The mass was ill defined, necrotic, with profuse bleeding surrounded by edema. Fine needle aspiration biopsy was consistent with MCC. The tumor was removed with skin graft. Two months later he was admitted for ascites positive for MCC cells. No further therapy was initiated because of severe pancytopenia. The patient is currently alive at four months.

It is notable that cytogenetics performed in 1996 for the evaluation of multiple myeloma showed deletions in the chromosome 6, trisomy in chromosome 3 and 11, monosomy of chromosome 13, and structural aberrations in chromosome 1.

This case had an unusual presentation for MCC due to the initial localization of the primary, (most common head and neck) and the site of metastasis (malignant ascites). We found only one case report of MM followed by a MCC as a second neoplasm. The frequency of solid tumors in MM is 6% diagnosed in advanced stages in most cases.

There were reports of MCC as second malignancy in patients with CLL, an entity associated with increase frequency of skin tumors. Regarding the cytogenetics findings, the mosaic karyotype with several abnormalities including hypo and hyperdiploid states were present before the MCC developed and may represent anomalies associated with MM. The overall tendency to triploid along with the hypodiploid states and the several structural changes are compatible with the most frequent cytogenetic anomalies in MCC.

Concomitant Homozygous G20210A Prothrombin Gene Mutation and Lupus Anticoagulant Positivity: A Case Report

IMRAN MIRZA, M.D., MICHELLE CLARK, WILLIAM JOHNS, M.D.,
AND LEONEL EDWARDS, M.D.
Department of Pathology and Laboratory Medicine and the Division of Nuclear Medicine

The association of a single point mutation (G→A) at position 20210 in the 3'-untranslated region of the prothrombin gene with elevated prothrombin levels and increased risk of thrombosis has been known. This mutation has been associated with both arterial and venous thrombosis. The defect is transmitted as an autosomal dominant trait. In a heterozygote state, the G20210A has been reported to increase the relative risk for venous thrombosis 2.8 fold. We report a case of deep venous thrombosis in a patient with homozygous prothrombin gene mutation 20210AA and positive lupus anticoagulant.

A 61-year-old female without significant past medical history presented at our hospital with complaints of right lower extremity swelling and pain for the past three to four days. There was no history of trauma or immobilization and there were no other complaints. Doppler venous scan showed deep venous thrombosis extending from popliteal vein to common femoral vein, including profunda femoris. On examination she had significant and diffuse swelling of her right lower extremity with erythema and tenderness. Her family history was positive for recurrent deep venous thrombosis episodes in her mother and two sisters, who were on warfarin therapy. Blood was drawn for hypercoagulable work up and other laboratory studies. She was then placed on heparin and warfarin therapy.

Review of the hypercoagulable work up demonstrated increased fibrinogen and Factor VIII levels, as well as positive results for lupus anticoagulant (LA). The latter are antibodies that act as inhibitors of clotting in vitro, but are thrombogenic *in vivo*. They are strongly associated with both arterial and venous thrombosis. The patient was also noted to be homozygous for G20210A transition in the prothrombin gene by polymerase chain reaction, restriction enzyme digestion, and polyacrylamide gel electrophoresis.

The calculated expected prevalence for homozygous 20210AA carriers is 0.014. However, review of the literature shows no data about the specific risk associated with homozygous 20210AA state. A handful of reported cases of homozygous individuals were obtained in our literature search, including 4 families. Review of these cases shows a significant association of thrombosis in these patients with presence of other prothrombotic factors, as in our case. We propose that 20210AA poses mild thrombotic risk, and requires additional factors for its manifestation. Although anticardiolipin antibodies have been described in a patient with homozygous prothrombin mutation, this is the first report of detecting concomitant LA in a patient with 20210AA prothrombin gene variant.

Assistant Clinical Professor of Nuclear Medicine (Dr. Johns), University of Connecticut School of Medicine and New York Medical College.

Pi Null (Pi^{--}) Variant of Alpha-1-Antitrypsin Deficiency

JOSE MENDEZ, M.D. AND ARTHUR KOTCH, M.D.
Department of Medicine (Pulmonology)

Alpha-1-antitrypsin deficiency is a hereditary disorder characterized by low or null levels of alpha-1-antitrypsin (A1AT), an increased risk for emphysema at an early age, and liver disease. The A1AT is the principal inhibitor of neutrophil elastase. The insufficient anti-elastase protection in the lungs of patients with A1AT deficiency allows destruction of the alveolar structures resulting in emphysema. The most commonly associated phenotype (Pi ZZ) has an abnormal Z allele. In contrast to ZZ and SZ states, in which mutant proteins are found in reduced amounts, the Pi null state is a rare form of deficiency in which no A1AT can be found at all.

A 59-year-old non-smoking white female was referred in consultation for evaluation and treatment of alpha -1-antitrypsin deficiency. She was recently admitted to another institution for respiratory failure. She had a history of progressively worsening dyspnea on exertion, cough, and recurrent respiratory infections. The family history was of interest in that a cousin died of cystic fibrosis at the age of eight. The patient's children have not been tested despite recommendations to do so. Serial pulmonary function test showed progressive worsening of obstructive airway disease: FEV1: 1.94 (68%) in 2/97; 1.70 (60%) in 9/97; 1.39 (49%) in 3/98; and 1.31 (46%) in 6/98. The ventilation-perfusion scan was low probability for pulmonary embolism. A CT scan of the chest showed evidence of multiple bullas. Serum alpha 1 antitrypsin was 18 mg / dl (110-200 mg/dl); and alpha 1 antitrypsin phenotyping done by Mayo Medical Labs, Rochester was read as NULL. An immunoassay for alpha-1-antitrypsin done by a specialized lab (AAT Deficiency Detection Center in Salt Lake UT) showed a serum level of < 1.1 uM/L(32.4 uM/L). Phenotype by isoelectric focusing showed no bands for alpha 1, and the case was classified as Pi null-null phenotype. Despite the treatment with Prolastin and bronchodilators, there has been a continuing decline in pulmonary function.

We present a case of Pi null homozygote phenotype of alpha 1 antitrypsine deficiency (five to 10 cases described in the country) with an accelerated lung injury and progressively worsening of the pulmonary function tests despite the augmentation therapy with Alpha-1-Proteinase Inhibitor (human). The literature supports that Pi null-null individuals are at greater risk of lung injury despite the appropriate treatment.

There have been reports of association of A1AT deficiency with asthma, panniculitis, glomerulonephritis, liver disease and cystic fibrosis. This rare condition of absolute absence of A1AT puts the patients at exceptional risk of sustaining lung injury without intervention.

Associate Clinical Professor of Internal Medicine (Dr. Kotch), Yale University School of Medicine.

Eosinophilic Lung Disease—A Clinicopathologic Study of 10 Cases With Lung Biopsies at Danbury Hospital

SYED KAZIMI, M.D., STEVEN SIEBER, M.D., HINA KAZIMI, M.D.,
AND JONATHAN GORDON, M.D.
Departments of Pathology and Laboratory Medicine and Medicine (Pulmonology)

Eosinophilic lung diseases are characterized by airway and/or interstitial eosinophilia, usually associated with peripheral blood eosinophilia. The major diseases that fall into this category include acute and chronic eosinophilic pneumonia, Churg-Strauss sydrome, allergic bronchopulmonary aspergillosis, asthmatic lung disease and drug hypersensitivity.

We searched the Danbury Hospital Surgical Pathology files for cases of eosinophilic pulmonary diseases diagnosed by lung biopsy/autopsy during the period 1989–1999. For each case, we retrospectively reviewed in detail the clinical presentation, radiographic studies, pulmonary function testing, exposure history, serologic testing, biopsy findings, and response to treatment. We identified seven cases of eosinophilic pneumonia (six chronic and one acute) and one case each of Churg-Strauss syndrome and methotrexate hypersensitivity. One autopsy case of status asthmaticus was also identified. There were five males and five females (age range 15 to 84 years; mean 49 years). Past history of asthma was present in 5/10 patients, and allergies in 3/10. Presenting symptoms included dry cough (7/10 patients), low-grade fever (4/10), dyspnea (3/10), weight loss (3/10), and malaise/fatigue (3/10). Duration of symptoms ranged from one day to six months. Chest radiographs (available for nine patients) showed bilateral alveolar and/or interstitial infiltrates in 6/9, and one case each of lobar consolidation, cavitation and bullous disease. Pulmonary function testing was performed in seven patients, revealing mild to moderate reduction in diffusion capacity in three, mild to moderate obstructive disease in three, and mild restrictive pattern in two patients. Relative peripheral blood eosinophilia was seen in 9/10 cases. Absolute eosinophil count was available in eight cases and was elevated in six. Serum IgE levels were performed in six cases, and were elevated in two.

The nine lung biopsies (four open biopsies, five transbronchial) showed mild to dense airspace and interstitial, predominantly eosinophilic leukocytic infiltrates. These inflammatory infiltrates were diffuse in 3/10 patients, patchy in 6/10 patients, and were seen as rare foci in one autopsy lung of status asthmaticus. Charcot-Leydon crystals were noted in 9/10 cases. Scattered multinucleated giant cells and a necrotizing granuloma was present in one case each. Vessel wall inflammation was noted in three cases (two cases of eosinophilic pneumonia with non-necrotizing inflammation and one case of Churg-Strauss syndrome with focal necrotizing inflammation). Foci of BOOP-like reaction were noted in 8/10 cases. Typical asthmatic changes (mucus plugs, smooth muscle hyperplasia, and airway wall inflammation & edema) were seen in the autopsy case of status asthmaticus. All patients were treated with steroids. Two patients were lost to follow-up and the one with status asthmaticus died shortly after hospital admission. Of the remaining seven patients, six responded favorably to prednisone therapy (although two patients relapsed after initial steroid tapering). The final patient (acute eosinophilic pneumonia) died several weeks after initial biopsy despite prednisone therapy, and premortem open lung biopsy performed at another institution showed invasive pulmonary aspergillosis.

In summary, there was considerable clinical and pathologic overlap among cases of acute and chronic eosinophilic pneumonia and Churg-Strauss syndrome. The few discriminatory features in our series included duration of symptoms, peripheral eosinophil count, and presence or absence of necrotizing vasculitis.

Instructor of Pathology (Dr Sieber) University of Connecticut School of Medicine; Assistant Clinical Professor of Medicine (Dr.Gordon) Yale School of Medicine

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Nephrogenic Diabetes Insipidus and Acute Renal Failure Associated With An Over-the-Counter Diet Pill

HOWARD B. GARFINKEL, M.D., RAZVAN BALOTESCU, M.D., AND CARLOS JORGE, M.D.
Department of Medicine (Nephrology and Hypertension)

A previously healthy 22 year old G1P1 white woman was admitted to the hospital with a one month history of polyuria, polydipsia, and abdominal pain. Six days prior to admission, was found to have renal failure (BUN = 29 mg/dl and creatinine = 3.1 mg/dl). Urinalysis revealed a specific gravity of 1.010 and 2+ proteinuria. One day prior to admission, BUN = 43 mg/dl and creatinine = 4.9 mg/dl. There had been no prior measurement of her renal function.

One month prior to admission and before the onset of her symptoms, the patient began taking PhenSafe®, an over-the-counter product sold as an aid to weight reduction. A few days later, she began to have abdominal pain, extreme thirst, and polydipsia. Shortly after the onset of the abdominal pain, she began taking two to four ibuprophen tablets per day. She denied any illicit drug use or heavy alcohol use, and the only other medication was a birth control pill. ROS and PFSH were non-contributory.

Physical examination revealed a slightly overweight young woman in no apparent distress. BP=135/85 without orthostatic changes, HR = 82 and regular, RR = 20, and T = 98.6 F. There was vague tenderness to deep palpation of her right upper abdomen. The remainder of the physical examination was normal.

On admission, Na = 146 mM/L, K = 5.1 mM/L, Cl = 108 mM/L, HCO = 23 mM/L, BUN = 36 mg/dl, creatinine = 4.4 mg/dl, glucose = 72 mg/dl, ionized Ca = 1.22 mM/L, Mg = 2.5 mg/dl, phosphate = 5.6 mg/dl, WBC = 10.9 K/mm^3, Hct=37.1%. LFTs were normal. Urine had a specific gravity = 1.004, 2+ protein, and an unremarkable sediment. Her urine remained dilute 90 minutes after administration of intranasal desmopressin. An ultrasound of her abdomen and kidneys was normal.

During her hospitalization she was treated with IV fluids with improvement of her symptoms. She was discharged on day four with BUN = 30mg/dl and creatinine = 2.4mg/dl. One and three months after discharge, BUN = 15 and 20 mg/dl, creatinine = 1.3 and 0.9 mg/dl, and Na = 139 and 141mM/L, respectively.

Dilute urine unresponsive to desmopressin in a patient with hypernatremia, polyuria and increased thirst is characteristic of nephrogenic diabetes insipidus (NDI). Since the onset of her symptoms began after she started taking PhenSafe®, we feel that one or more of the ingredients in that product caused her syndrome complex.

The abdominal pain, polyuria and polydipsia developed shortly after she began taking PhenSafe® but before she began taking ibuprophen. However, since there were no measurements of renal function between the time she started taking PhenSafe® and when she started taking ibuprophen for the abdominal pain, we cannot be certain that the ibuprophen did not play a role in her ARF. In fact, there may be a yet unrecognized synergism in producing ARF between ibuprophen (or other non-steroidals) and one or more of the substances in PhenSafe®.

This case is probably another example of harm done by untested and unregulated over-the-counter remedies.

Associate Professor of Medicine (Dr. Garfinkel), Yale University School of Medicine.

Unconventional Doxycycline Treatment for an Infected Abdominal Aortic Aneurysm Prosthesis Post Repair With Abscesses and Fistulas

JOHN DEFRANCE, M.D., PATRICK MALLOY, M.D., AND STEWART ELVIS RENDON, M.D.
Departments of Surgery (Cardiovascular) and Radiology (Interventional)

Historically, patients who present with an infected abdominal aortic aneurysm prosthesis have been treated conventionally. Conventional treatment includes reoperation, excision of the infected prosthetic, oversewing of the aortic stump, and an extraanatomical bypass is performed.

We present a case in which an unconventional approach was devised to treat an elderly patient who was not amenable to surgical intervention. The patient presented with multiple abscesses in the perigraft area which fistulized to the Hartmanns pouch stump, which was created secondary to bowel necrosis. Doxycycline was inserted into the fistula to chemically ablate the chronic infection and protect the infected graft from pseudoaneurysm formation and subsequent leak.

To our knowledge, such a complication has not been treated in this manner. This case is instructive in a unique therapeutic manner to deal with overwhelming complications related to infected prosthetic aortic grafts.

Associate Clinical Professor of Surgery (Dr. DeFrance), New York Medical College; Surgical Resident (Dr. Rendon), Danbury Hospital/ Sound Shore Medical Center/NYMC

Motor-Vehicle Occupant Fatalities and Restraint Use Among Children Aged Four to Eight Years—United States, 1990–1998

In the United States, more children aged four to eight years die as occupants in motor-vehicle-related crashes than from any other form of unintentional injury.[1] To reduce the number of deaths and injuries caused by motor-vehicle-related trauma, child passengers in this age group should be restrained properly in a vehicle's back seat.[2] To characterize fatalities, restraint use, and seating position among occupants aged four to eight years involved in fatal crashes, CDC analyzed 1994–1998 data from the Fatality Analysis Reporting System (FARS),which is maintained by the National Highway Traffic Safety Administration (NHTSA). This report summarizes the results of that analysis, which indicate that during 1994–1998, little change occurred in the death rate, restraint use, and seating position among children aged four to eight years killed in crashes.

Motor-vehicle occupants who died in crashes during 1994-1998 were included in the analysis of FARS data. FARS is a census of traffic crashes in which at least one occupant or nonmotorist (eg, pedestrian) died within 30 days of a crash on a public road within the 50 states, District of Columbia, and Puerto Rico. FARS includes information about restraint use and seating position derived from police crash reports. Restraint use (eg, seat belts, child-safety seats [CSSs], and belt-positioning booster seats) was reported as used or not used. Seating position was designated as front, back, other, or unknown. Injury death rates per 100,000 population were calculated using annual estimates from the Bureau of the Census.

During 1994-1998, 14,411 child occupants aged four to eight years were involved in crashes where one or more fatalities occurred; of these, 2,549 (17.7%) died. Approximately 500 child occupants died each year during the study period; the average annual age-specific death rate was 2.6 per 100,000 population (Table 1). In 1994, restraint use among fatally injured children was 35.2% (177 of 503); in 1998, restraint use was 38.1% (201 of 527). The proportion of fatally injured children seated in the back seat of a vehicle involved in a crash was 50.1% (252 of 503) in 1994 and 53.7% (283 of 527) in 1998.

Reported by: Division of Unintentional Injury Prevention, National Center for Injury Prevention and Control, CDC.

Editorial Note: During 1994–1998, child occupant death rates did not decrease, restraint use among fatally injured child occupants changed little, and the proportion of fatally injured children seated in the back seat of a motor vehicle involved in a crash remained fairly constant. Children aged four to eight years represent a special population for motor-vehicle occupant protection. Having outgrown CSSs designed for younger passengers,

Table 1.—Number of deaths, death rate,* restraint use, and seating position among fatally injured motor-vehicle occupants aged four to eight years—United States,

Year	No. deaths	Death rate	No. restrained	% restrained	No. seated in back	% seated in back
1994	503	2.65	177	35.2%	252	50.1%
1995	498	2.58	168	33.7%	208	41.8%
1996	499	2.55	188	37.7%	250	50.1%
1997	522	2.64	198	37.9%	257	49.2%
1998	527	2.66	201	38.1%	283	53.7%
Total	2,549	2.61	932	36.6%	1,250	49.0%

*Per 100,000 age-specific population.
Source: Fatality Analysis Reporting System, National Highway Traffic Safety Administration.

Reprinted from the *Morbidity and Mortality Weekly Report,* 25 February 2000; vol.49, no. 7, Centers for Disease Control (CDC), National Institute for Health (NIH).

children aged four to eight years frequently sit unrestrained or are placed prematurely in adult seat belt systems. Public health and traffic safety organizations recommend that children in this age group be restrained properly in booster seats.[3] This study found that nearly two thirds of fatally injured children were unrestrained at the time of the crash. Only 4%–6% of children aged four to eight years used booster seats when riding in motor vehicles.[4,5]

Belt-positioning booster seats raise a child so that the shoulder belt fits securely between the neck and arm and the lap belt lies low and flat across the upper thighs. Children do not fit in adult lap/shoulder belts without a booster seat until they are 58 inches tall and weigh 80 pounds.[3,6] Children should ride in a booster seat from the time they graduate from their forward-facing CSS until approximately age eight years or until they are tall enough for the knees to bend over the edge of the seat when the child's back is resting firmly against the seat back.

Despite recommendations for children to ride in the back seat whenever possible to reduce risk for injury in a crash, approximately one fourth of child passengers ride in the front seat.[7] Riding in the back virtually eliminates injury risk from deployed front-seat passenger air bags and places the child in the safest part of the vehicle in the event of a crash. As of 1 January 2000, 35 children aged four to eight years have died while seated in front of air bags. Of these children, 31 (89%) were either unrestrained or improperly restrained.[8] Riding in the back seat is associated with at least a 30% reduction in the risk for fatal injury.[9] Approximately half of those children in this study who were fatally injured were sitting in the back seat.

The 50 states, District of Columbia, and Puerto Rico have child-passenger safety laws; however, substantial gaps in coverage exist for child passengers aged four to eight years. For example, in 19 states, children this age can ride unrestrained in the back seat of a motor vehicle. In most states, children as young as age four years may use an adult seat belt. No state requires the use of booster seats for children who have outgrown their CSSs.[10] Three states have laws requiring that children be seated in the back seat of passenger vehicles. The ages of the children covered by these laws vary by state.

The findings in this study are subject to at least three limitations. First, police crash reports overestimate restraint use; therefore, restraint use may be lower for children in this age group. Second, vehicle miles traveled have increased during 1994–1998; consequently, improvements in fatality rates may be masked by increased exposure to travel. Finally, increases in restraint use and resulting changes in occupant fatalities may require many years of investigation before they become apparent.

Reducing fatalities among motor vehicle occupants aged four to eight years will require finding effective strategies to promote booster seat use and placement of children in the back seat. Public health and traffic safety efforts should be accelerated to increase appropriate occupant protection among children aged four to eight years as a primary means to reduce fatal motor-vehicle-related injuries. Efforts are under way by CDC and others to determine the best ways to encourage booster seat use and to increase the prevalence of properly restrained children riding in the back seat.

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Public Opinion About Public Health—United States, 1999

Previous surveys have documented a substantial gap in the public's understanding and attitudes about public health.[1] The Pew Charitable Trusts, a Philadelphia-based philanthropy that supports nonprofit activities in the areas of culture, education, the environment, health and human services, public policy, and religion, commissioned two firms, the Mellman Group and Public Opinion Strategies, to conduct both qualitative and quantitative research in 1999 to characterize the public's attitudes about public health. In particular, the Pew Charitable Trusts asked the groups to explore 1) perceptions about public health in general, including levels of support and importance compared with other national priorities; 2) opinions about environmental health and its role in causing disease and promoting health; and 3) opinions about the public health infrastructure. This report summarizes the results of this survey, which indicate that the term "public health" is misunderstood, persons are concerned about the quality of the public health system, increased government spending for public health is a greater priority than other key national concerns, and that the public regard environmental factors as important contributors to certain health problems.

During March 24–31, 1999, the groups conducted a national telephone survey of 1,234 registered voters. Registered voters, selected by random-digit-dialing, were chosen because of their potential influence on setting government priorities. Respondents were first asked to respond to a series of statements defining public health. Respondents were then given a definition of public health (ie, protecting the population from disease) and asked a series of questions about federal resources devoted to public health and other programs. Respondents also were asked about their beliefs on the links between environmental factors and disease. The sampling margin of error was ±2.8% at the 95% confidence level.

Respondents were asked "When you hear the term 'public health,' what do you think of?" and then given a choice of four descriptions. Approximately half (57%) of the respondents could not define public health as either protecting the population from disease or policies and programs that promote healthy living conditions for everyone.

Interviewers then defined public health and asked respondents to rate (ie, excellent, good, fair, or poor) the current system for protecting public health. Most (57%) respondents offered negative evaluations of the public health system. Respondents also were asked whether sufficient resources were being dedicated to public health; 65% said that the United States should do more to protect public health. When asked to compare public health as a spending priority with several other key programs, most said public health was more deserving of additional funds than building roads and highways (80%), missile defense (73%), and cutting taxes (63%). Only education was viewed as a greater priority for additional resources (24%).

When asked about environmental factors (eg, pollution) and their relation to public hearth, 85% said they believed that environmental factors are important determinants of disease and health problems. Of these, 38% considered environmental factors very important.

Respondents were asked to indicate how much impact environmental problems have on the public health. Most respondents believed that environmental factors play an important role in causing certain diseases. Sinus and allergy problems (54%), childhood asthma (54%), childhood cancer (39%), colds and influenza (35%), and birth defects (36%) were the health problems seen as most likely resulting from environmental factors (Table 1).

Respondents were given nine environmental issues and asked what impact each had on the population's health (a great deal, some, not too much, not at all, or don't know). Contaminated drinking water (58%), toxic waste (56%), air pollution (53%), foods contaminated with bacteria (53%), and pesticides in foods (47%) were considered to have the greatest impact (Table 2).

Reported by: S.A. Hearne, Dr.PH., P.A. Locke, Dr.PH., Pew Environmental Health Commission, Johns Hopkins School of Public Health, Baltimore, Maryland. M. Mellman, P. Loeb, L. Dropkin, Mellman Group; G. Bolger, N. Fink, Public Opinion Strategies, Washington, DC. M. Byrnes, M.P.A., Pew Charitable Trusts, Philadelphia, Pennsylvania.

Reprinted from the *Morbidity and Mortality Weekly Report,* 31 March 2000; vol.49, no. 12, Centers for Disease Control (CDC), National Institute for Health (NIH).

Table 1.—Percentage of participants' responses to the level of impact of environmental factors on selected health problems—Pew Charitable Trusts Public Health Survey, United States, 1999

Health problem	Very important	Somewhat important	Not too important	Not at all	Don't know
Sinus problems/allergies	54%	35%	24%	22%	24%
Asthma in children	54%	35%	4%	3%	5%
Colds/Influenza	35%	41%	11%	10%	3%
Childhood cancer	39%	35%	8%	8%	10%
Birth defects	36%	37%	9%	7%	10%
Breast cancer	28%	33%	15%	13%	12%
Brain tumors	24%	32%	12%	14%	18%
Infertility	20%	36%	15%	14%	16%
Learning disabilities	21%	29%	21%	19%	11%
Prostate cancer	20%	29%	17%	17%	17%
Behavioral disorders	18%	28%	21%	21%	12%
Childhood injury	15%	24%	23%	29%	10%

Table 2.—Percentage of participants' responses to the level of impact the environment has on a person's health, by environmental problem—Pew CharitableTrusts Public Health Survey, United States, 1999

Problem	Great deal	Some	Not much	Not at all	Don't know
Air pollution	53%	38%	25%	22%	22%
Sick buildings	26%	36%	10%	5%	22%
Contaminated drinking water	58%	28%	8%	3%	3%
Food contaminated with bacteria	53%	34%	9%	2%	1%
Pesticides in foods	47%	36%	10%	4%	3%
Toxic waste	56%	29%	9%	2%	5%
Chemicals in consumer products	35%	42%	15%	5%	3%
Depletion of ozone layer	36%	33%	12%	9%	10%
Electromagnetic fields created by power lines	19%	32%	17%	16%	17%

Editorial Note: Societal support is critical for public health efforts, which target population-based disease prevention and collective action. Since 1981, financial support for public health infrastructure has decreased,[2,3] and national expenditures for health-care services have increased.[4,5] The diminishing resources for public health combined with the increasing costs of medical intervention may indicate a failure to communicate the efficacy of public health practices and programs.

The findings in this report are subject to at least two limitations. First, the survey design defined public health but not the public health system. Second, spending priorities do not necessarily address support of specific public health initiatives. The survey does indicate substantial support for public health when the public understands the concept, which has important implications for how public health professionals communicate with the public, policymakers, and the media.

The findings in the survey indicate that most registered voters believe the environment is an important determinant in maintaining good health. The identification of environmental health issues with public health may enable public health professionals to better inform the public about the importance of a population-based focus on disease prevention.

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THE MEDICAL LETTER

Pantoprazole *(Protonix)*

Pantoprazole *(Protonix*- Wyeth-Ayerst), the fourth benzimidazole proton pump inhibitor to become available in the United States, has been marketed for short-term oral treatment of erosive gastroesophageal reflux disease (GERD). An intravenous formulation is under review by the FDA. Pantoprazole has been available in other countries for several years.

MECHANISM OF ACTION—Pantoprazole, like other proton pump inhibitors, binds to the H^+/K^+-ATPase on the surface of gastric parietal cells, inhibiting secretion of hydrogen ions into the gastric lumen.

PHARMACOKINETICS—After oral administration, plasma concentrations of pantoprazole reach a peak in about 2.5 hours. Food delays its absorption by up to two hours, but does not affect peak serum concentrations. The drug is metabolized in the liver into inactive compounds, mostly by CYP2C19 and to a lesser extent by 3A4, 2D6 and 2C9. The metabolites are excreted mainly in urine. Pantoprazole has an elimination half-life of about one to two hours (A Fitton and L Wiseman, Drugs, 51:460, 1996).

ACTIVITY—In healthy volunteers, a 40-mg oral dose of pantoprazole inhibited gastric acid secretion by 51% after 2.5 hours. Inhibition increased to 85% after seven days of once daily dosing. Acid production returned to normal within one week after stopping the drug.

DRUG INTERACTIONS—In human studies, no clinically significant interactions have been found with other drugs metabolized by CYP2C19, 3A4, 2D6, and 2C9, including cisapride *(Propulsid),* carbamazepine *(Tegretol,* and others), diazepam *(Valium,* and others), diclofenac *(Voltaren,* and others), glyburide *(Diabeta,* and others), levonorgestrel/ethinyl estradiol, metoprolol *(Lopressor,* and others), nifedipine *(Procardia,* and others), phenytoin *(Dilantin,* and others), and warfarin *(Coumadin,* and others). Pantoprazole also does not interact with theophylline *(Theo-Dur,* and others) or digoxin *(Lanoxin,* and others). It may decrease the bioavailability of drugs such as ketoconazole *(Nizoral,* and others) that depend on acidic pH for absorption.

CLINICAL TRIALS—An unpublished placebo-controlled eight-week trial in 603 patients with GERD, described in the manufacturer's package insert, found that pantoprazole 40 mg per day significantly decreased symptoms of heartburn and regurgitation, and produced complete endoscopic healing in 93% of patients, compared to 40% with placebo. In another eight-week study in patients with GERD, complete healing occurred in 153 of 170 patients (90%) treated with pantoprazole 40 mg/day and 81 of 86 patients (94%) treated with omeprazole 20 mg/day (J Mossner et al, *Aliment Pharmacol Ther*, 9:321, 1995). Pantoprazole was more effective than the H_2-receptor antagonists nizatidine *(Axid)* and ranitidine *(Zantac,* and others) in healing esophageal erosions and decreasing symptoms of GERD (EJ Ramirez-Barba et al, *Clin Drug Invest*, 18:445, 1999). In one small study, in patients with GERD, intravenous pantoprazole was well tolerated and as effective as oral pantoprazole in suppressing acid secretion (DC Metz et al, *Am J Gastroenterol*,

COST OF PROTON PUMP INHIBITORS

Drug	Dosage[1]	Formulation	Cost[2]
Lansoprazole—*Prevacid* (Tap)	30 mg/day	capsule	$116.41
Omeprazole—*Prilosec* (AstraZeneca)	20 mg/day	capsule	124.17
Pantoprazole—*Protonix* (Wyeth-Ayerst)	40 moday	tablet	90.00
Rabeprazole—*Aciphex* (Janssen)	20 mg/day	tablet	110.88

1. Dosage for treatment of erosive GERD.
2. Cost for 30 days' treatment according to AWP listings in Drug *Topics Red Book Update,* July 2000. Retail prices may be higher or lower, depending on the pharmacy and the patient's insurance coverage.

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95:626, 2000). Pantoprazole was also effective for 12 to 24 months as maintenance therapy for healed GERD (J Escourrou et al, *Aliment Pharmacol Ther*, 13:1481, 1999; K Plein et al, *Eur J Gastroenterol Hepatol*, 12:425, 2000; CJ van Rensburg et al, *Aliment Pharmacol Ther*, 13:1023, 1999).

In one double-blind trial, pantoprazole 80 mg/day was as effective as omeprazole 40 mg/day, both given with amoxicillin and clarithromycin, for eradication of *Helicobacter pylori* (F Catalano et al, *Helicobacter*, 4:178, 1999).

Two four-week double-blind trials in patients with duodenal ulcers found complete healing of ulcers in 118 of 124 (95%) and 178 of 195 patients (96%) treated with pantoprazole 40 mg/day, compared to 117 of 131 (89%) and 83 of 91 patients (91%) treated with omeprazole 20 mg (JA Beker et al, *Eur J Gastroenterol Hepatol*, 7:407, 1995; M Rehner et al, *Aliment Pharmacol Ther*, 9:411, 1995). An eight-week double-blind study in 219 patients with gastric ulcers found complete healing in 142 of 146 patients (97%) treated with pantoprazole 40 mg, compared to 70 of 73 patients (96%) treated with omeprazole 20 mg/day (L Witzel et al, *Aliment Pharmacol Ther*, 9:19, 1995). Intravenous pantoprazole 160 to 240 mg/day has been effective in treating Zollinger-Ellison syndrome (EA Lew et al, *Gastroenterology*, 118:696, 2000).

ADVERSE EFFECTS—Pantoprazole is generally well tolerated. Diarrhea, rash, constipation, nausea, and increases in aminotransferase activity can occur. As with some other proton pump inhibitors, anaphylaxis (S Natsch et al, *Ann Pharmacother*, 34:474, April 2000), angioedema and severe dermatologic reactions such as erythema multiforme, Stevens-Johnson syndrome, and fatal toxic epidermal necrolysis have been reported with pantoprazole. All proton pump inhibitors have caused gastric enterochromaffin-like (ECL) cell hyperplasia in animals and humans, and neuroendocrine cell tumors and hepatocellular adenomas and carcinoma in animals.

DOSAGE—*Protonix is* available in 40-mg tablets. For treatment of erosive GERD the recommended dosage is 40 mg once daily for eight weeks. If healing is not complete, the drug can be given for a second eight-week course. Pantoprazole, like rabeprazole, is available in tablets that, according to Medical Letter consultants, can be crushed and given with liquid through feeding tubes. No dosage adjustment is necessary in patients with renal failure.

CONCLUSION—Pantoprazole appears to be as effective as other proton pump inhibitors, and is less expensive. It may soon be the first of these drugs to be available in an intravenous formulation.

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Universal Healthcare: A Bold Proposal

K.J. LEE, M.D. AND MARK E. LEE

Presented at Healthcare Solution Workshop/Conference,
8 April 2000, Foxwoods Resort;
Revised by the Healthcare Solution Task Force.

ABSTRACT—One problem with the American health-care system today is not that it's too expensive but that it's too wasteful. The amount spent on health-care in the United States is sufficient to take care of the medical needs of every citizen. The reason that it does not is that the money is far too often is misspent. America already is spending 14% of the gross domestic product and yet we have health-care chaos and 44 million uninsured. Another problem is the lack of trust between payors, insurance carriers, regulators, employers, employees, providers, and patients. Although the financing aspect of health-care is tremendously important, it is even more important to design a plan to spend the money wisely, align the incentives of insurers, payors, patients, and providers, and restore trust between parties. Otherwise we shall continue to be in chaos regardless of how much money we spend on health-care.

In this article, we outline our proposal for an ideal comprehensive national health-care plan that will guarantee that we spend our health-care dollars wisely. Our plan would cover all Americans, including the 44 million uninsured, and it would do so at less than the cost of the current system.

Because insurance companies are not equipped to oversee medical practice, our plan would place the day-to-day management of the health-care system in the hands of physicians and local physician-run, physician-owned "provider groups." The physicians in these provider groups would be charged with two primary responsibilities: 1) clinically, they would be responsible for providing total quality cradle-to-grave health-care for every patient in their group and 2) economically, they would be responsible for the budget and to spend it wisely. Physicians will be compensated fee-for-service plus an incentive for efficiency, patient satisfaction, and outcome in a broad sense. Physicians would enjoy wide latitude in clinical decision-making without being second-guessed by distant third parties. Our plan places the fiscal responsibility on physicians while at the same time establishing a system of checks and balances to ensure that patients are protected and well cared for. Unlike outwardly similar plans, under this proposal the physicians are owners of the provider groups and the incentives between payors, insurers, providers, and patients are better aligned. It will eliminate the debate about giving patients the right to sue health plans and employers. It would empower large legally organized physician groups to negotiate with insurers.

Our plan is a model for spending money wisely. We believe it would benefit, and therefore be embraced, by all parties—physicians, other healthcare providers, employers, insurance companies, the government, and above all the American public.

K.J. LEE, M.D. Chair, Healthcare Solution Task Force, Associate Clinical Professor, Yale University School of Medicine, Chief of Otolaryngology, Hospital of St. Raphael, New Haven, Chairman and CEO, MedWin of Connecticut, LLC, New Haven, CEO, The Primary and Specialist Medical Center, Managing Partner, Southern New England Ear, Nose, Throat, and Facial Plastic Surgery Group, New Haven; MARK E. LEE, Summer administrative intern, MedWin of Connecticut, LLC, New Haven.

Introduction

THERE is little dispute that the quality of medical care available in the United States is the best in the world. Yet despite all of our technologic advances and successes, today's American health-care delivery system is in a state of chaos. Providers, patients, insurers, employers, and regulators are all dissatisfied. One problem with the American health-care system is not that it's too expensive, but that it's too wasteful. The amount of money spent on health-care in the United States today is sufficient to take care of all the medical needs of every citizen. The reason that it does not is that the money too often is misspent. America is already spending 14% of the gross domestic product and yet we have health-care chaos and 44 million uninsured. Another problem is the lack of trust between payors, providers, patients, insurers, employers, and regulators. This is evident from the debates in Congress, litigation, draconian precertification processes mandated by insurance companies, and a maze of complicated regulations imposed by Medicare. Although the financing aspect of health-care is tremendously important, it is even more important to design a plan to spend the money wisely, align the incentives of insurers, payors, patients, and providers , and restore trust between parties, otherwise we shall continue to be in chaos regardless of how much money we spend in the health-care industry. In this article we submit for consideration our proposal for a new universal health-care delivery program.

Our plan would significantly reduce, if not virtually eliminate, wasteful spending. As a result, health-care insurance would become affordable for every American, including the 44 million who are now uninsured. It realigns incentives thus restoring trust among all parties.

The framework of this proposal is the establishment of local, comprehensive, integrated, physician-run "provider groups." The health-care services rendered by these groups would be paid for from a budget paid by employers, consortiums of patients, or the government, either directly or through an insurance company.

Physicians would be responsible for keeping costs in check by eliminating waste while still rendering necessary medical care in a timely fashion. Moreover, clinical decision-making authority, much of which has been usurped by third parties, would be returned to the physician who is in the ideal position to recognize and avoid wasteful spending.

Cutting waste would account for only part of the savings. Free-market competition would provide more. Physicians would compete in the open market for patients which would ensure that quality care would be rendered at a competitive price.

Background

In the days before health-care costs began escalating out of hand, the physician and patient interacted in a confidential, one-on-one encounter. They had the same goals. They discussed the mosaic of competing and complementary considerations that go into making a treatment decision-cost, convenience, risk, benefit, etc., and they generally agreed on how to proceed. If the patient had insurance, the company paid the bill and few questions were asked.

But as costs increased, insurers began to demand a greater say in how their money was being spent. Third parties are not interested in the mosaic of competing and complementary considerations. They are interested in only one piece of the mosaic: cost. One way they could control costs was to foster an environment that not only encouraged, but demanded underutilization. Therefore, they set up strict claims-review processes and began to deny coverage of services.

This led to a situation in which physicians were being second-guessed by the third parties. Doctors complained that untrained, uninformed strangers in distant cities were telling them how to treat patients. But the insurers controlled the purse strings, so they made the rules. And in doing so, they created an enormous bureaucracy and mountains of paperwork.

Eight Steps to Spending Wisely

Our plan would eliminate waste in eight ways: cutting paperwork, ensuring appropriate utilization, coordinating care, implementing a system of early intervention and disease management, avoiding unnecessary emergency room and hospital admissions, behavior modification, copayments, and promoting preventive medicine and wellness.

Paperwork reduction.—One of the benefits of our plan is that it would curtail the level of bureaucracy and significantly cut the amount of paperwork. Because the mechanics of our plan's financing are uncomplicated and the decision-making authority would not be shared by antagonists, we would no longer need an army of claims processors and claims reviewers in hundreds of thousands of physicians' and insurers' offices across the country. Microsoft chairman Bill Gates has estimated that 20% to 30% of the annual trillion-dollar cost of the U.S. health-care system is for paperwork.[1] Cutting paperwork under our plan would reduce the overall cost of health-care by 11%.

Appropriate utilization.—The long-standing point of bitter contention between third parties and physicians–utilization—would finally be settled. While insurers have a stake in *under*utilization, physicians today have an inherent financial (as well as clinical) interest in *over*utilization. From a financial standpoint, physicians today are pieceworkers—the more they do, the more they earn. The temptation exists to do more than is necessary.

Our plan seeks to bring these two diametrically opposed concepts into balance. Medical necessity would be defined by the physician and the patient, rather than by an uninvolved, distant insurance worker. Under our plan, the objectives of all parties concerned would be aligned.

Coordination of care.—Another expensive failing of the current system is that treatment is uncoordinated and communication among doctors is lacking. When patients today are referred through the system from one physician to the next, their charts and test results too often don't accompany them. As a result, specialists duplicate costly tests that have already been performed and they institute treatment protocols that are not synchronized with those of the primary-care physician.

Our plan takes steps to alleviate this problem by calling for the centralization and computerization of the medical records of each patient in the provider group. While maintaining confidentiality, all physicians in the group would have rapid access to complete and current information on each patient in the group, including the latest treatments and test results. Thanks to the revolutionary advances in information technology during the past decade, creating a computerized record system for each provider group can be achieved quite easily. Until recently the input of history and physical findings was not user-friendly; the refinement of scanning and voice recognition natural speech writer has put electronic medical records within reach. Having the testing results at hand will avoid unnecessarily repeating tests.

Early intervention and disease management.—In the current health-care delivery system, it is not possible for physicians to identify patients with serious chronic illnesses. Physicians can do nothing until such a patient takes the initiative and makes an appointment. By the time many of these patients do seek treatment, their diseases have progressed to the point that routine care is no longer sufficient and expensive measures must be taken.

Our proposed model would lower the cost of healthcare by taking steps to minimize medical problems through early intervention and disease management. Whenever a group of patients signed on with a provider group, the physicians in the group, or the mid-level providers, would examine each patient assigned to him or her and flag the charts of those whose conditions warrant close observation. An advanced nurse practitioner would call these patients periodically, daily, if need be, depending on the seriousness of the condition, to monitor the patient's health, to remind the patient to take his or her medication, and to provide any other advice or instruction that is helpful. If the nurse suspected any trouble, a home or office visit could be arranged immediately. These patients would be considered "preferred clients," and they would receive "VIP treatment."

Unnecessary admissions.—Two of the biggest contributors to waste in the current system are unnecessary emergency room visits and hospital admissions. Emergency room visits can cost thousands of dollars, and hospital admissions can cost tens of thousands. Avoiding improper utilization would save the system millions of dollars.

Under our model, patients would be instructed to call one of the physicians in their provider group *before* going to the emergency room, whenever feasible. A clinician would see and examine the patient at a location near or adjacent to the emergency room and determine whether or not emergency care or hospitalization is actually necessary. If so, the patient would receive whatever care is required expeditiously. But when the situation is a false alarm—for example, simple indigestion rather than a heart attack—the patient would be reassured and treated appropriately without hospitalization. The patient would be spared the trouble of unnecessary hospital tests, which can be risky and painful, and the system would be spared the unnecessary expense.

Behavior modification.—One factor that could derail the best intentions of this model would be an insistent, implacable demand by patients for tests, treatments, and procedures that are not medically necessary. Physicians would need to educate patients at every opportunity that some services are not only unnecessary, but can do harm. Behavior modification could be achieved through ongoing public service campaigns, such as those that are changing attitudes about smoking, drunk driving, and other issues. The population would need to be educated, beginning in grammar school, through all of the media vehicles, including the internet. For example, credible spokespersons would explain that overuse of antibiotics causes drug resistance, that taking unneeded medications exposes patients to unnecessary side effects, that x-rays and MRIs are not risk-free, and that surgery should almost always be the last resort.

Copayments.—The patient's copayment for certain services would be another way to minimize overuse. Copayments would be high enough to discourage attention-seeking and unneeded care, but reasonable enough to be affordable.

Preventive medicine and promoting wellness.—Finally, perhaps the best way to avoid overuse is to keep patients healthy and satisfied. Each provider group will emphasize preventive medicine through screening and early detection of disease and promote wellness through nutrition, exercise, and life-style changes. This is what the population wants. It saves lives and money.

Avoiding both under- and overutilization, together with improving coordination obtaining accurate medical information, would reduce health-care expenditures by another 15%.

Local Provider Groups

The provider group model proposed here would make health-care affordable in two ways. First, health-care delivery would be subject to market-force competition. Second, each physician in the provider group would be encouraged to have ownership in the group and thus be personally responsible for keeping costs in check while rendering quality, compassionate, and courteous care.

Competition.—Provider groups would compete in a "market share area." The geographic size of each market share area would depend on its location but would be based on the size of its population and take into account a reasonable commuting distance.

Provider groups would be made up of a staff of primary-care physicians and specialists. Each provider group would be responsible for providing and paying for whatever health-care services their patients require, from influenza vaccinations to tertiary care. The group's income would derive from the premium or a percentage of the premium paid by employers, consortiums of patients, or the government. The money would be paid to the group either directly or through an insurance company. In addition to primary care, covered services would include specialty care, hospitalization, nursing care, physical and occupational therapy, home health care, etc. Provider groups would also pay for durable medical goods, acute care, subacute care, outpatient surgery, and diagnostic procedures, etc. The group would be able to hire ancillary personnel as full-time employees or contract for their services on an outsource basis.

To foster competition, each market share area would be serviced by at least three provider groups. Natural market-force competition would keep costs down and ensure value to payors and patients alike. Each group would compete on the basis of quality, service, and price.

Ownership and physician compensation.—Unlike outwardly similar models, each provider group would be owned by the providers who practice in it, although a few providers might not wish to participate in ownership, at least initially. The risks and rewards of ownership would provide ample incentive to see that the plan succeeds.

Patient satisfaction, the quality of care rendered, and appropriate and efficient management of resources are crucial to the success of a provider group that is held accountable for managing the health-care budget assigned to the group. The physicians' component of the budget will be divided between primary-care physicians and each of the specialty groups in accordance with actuarial data compiled by Milliman and Robertson, custom modified for each group. *Each physician's compensation would be paid in the following manner: part of the compensation could be a base amount, another portion could be related to productivity, another portion could be related to appropriate utilization of resources, and yet another portion could be related to patient satisfaction and outcome.* The portion related to productivity will be billed fee-for-service to the group, not to a distant insurance company or a complex governmental agency. The process is simple and cost effective. For the primary-care physicians, a portion of the dollars assigned to the primary-care department will be given to the primary-care physicians as a base compensation proportionate to the number of patients selecting him/her to be their primary-care physician. The rest of the dollars allocated to the primary care department will be divided into a pool to pay the physicians fee-for-service, a pool for appropriate utilization, and a pool for patient satisfaction and outcome. A similar arrangement can be made for the specialists except that the money allocated to a specialty will be divided into pools to pay fee-for-service, to pay for appropriate utilization and to pay for patient satisfaction and outcome. There is no need for a base compensation among specialists as the patient will not be selecting a specialist until he or she has a need for one. At the end of a predetermined period, as decided by the individual group, all the money in the physician's component of the budget as well as surpluses in the rest of the budget will be distributed in such a manner as to encourage the rendering of quality care with excellent customer service and appropriate utilization of resources. The details on compensation, which are beyond the scope of this paper, are described in detail by Lee and Lee[2], and by Lee et al[3]; suffice it to state that the formula encourages the physicians to render quality, appropriate, affordable care efficiently, with excellent customer service while managing the health-care budget effectively.

Because practicing physicians are in the best position to understand when clinical services are needed and when they are not, they are able to make smart decisions regarding utilization. They would be able to provide quality care for all without contributing to the enormous waste of money and resources that plagues the system today. Furthermore, utilization review is more efficient when it is conducted locally by the medical director of each provider group rather than by uninvolved insurance company employees in distant locations. Local utilization review can be conducted personally and in a timely manner and physician education can take place on the spot.

There is more than a financial incentive for physicians to participate in such an arrangement. There are psychologic rewards as well. Physicians have been complaining for years about loss of autonomy, the mass confusion, and the "hassle factor." For example, in order to obtain prior authorization, physicians usually must call an 800 number. All too often, the party on the other end of the line has no idea what the physician is talking about. Moreover, a single phone call can take as long as 45 minutes and disconnections are a frequent occurrence.

Under our proposed model, physicians would regain right to make their own decisions and do so in a much-streamlined process. Physicians would not be micromanaged and they would earn a reasonable income. They would also enjoy the satisfaction of playing an important, if not historic, role in eliminating the enormous excesses and mismanagement inherent in the current system.

Funding of the Budget

The premium for each patient would be paid to the provider group by employers, consortiums of individuals, or the government, either directly or through an insurance company, as described by Lee in 1998.[4] The budget would cover the cost of complete cradle-to-grave healthcare for all patients in the group. Each patient would contribute a reasonable copayment for office visits and other routine services.

Our plan would provide access to equal care for workers and their dependents who are now covered by their employers, citizens and dependents who are now covered by government programs, and the 44 million uninsured.

The employed population.—To cover its employees and their dependents, a large employer would compare the quality, service, and prices offered by the three provider groups in its market area. By having a choice, the employer would be able to negotiate and obtain the best value for its health-care dollar.

Once the employer has chosen a provider group, it would pay the fixed amount—say, for example, $150 per month per patient. This payment would guarantee total care for each patient. All expenses incurred by the provider group would be paid out of the pool it receives. The physicians in the provider group would have control of the pool and would have an incentive to apportion the money wisely. Under the current chaotic system, the available pool is still limited but the physicians are not in control nor held accountable for spending the money wisely.

Medicare and Medicaid beneficiaries.—In the case of patients who have government-funded coverage, the government would pay an insurance company or the provider group a lump sum for each patient. The provider group would use these funds to cover the costs of service in the same manner as it uses employer-paid funds.

The uninsured.—Most of the 44 million Americans who do not have health insurance are either the working poor whose employers do not provide benefits, the owners of small businesses, or self-employed individuals. There are three ways to provide coverage for these workers. All three would be funded, or at least partially subsidized, by the money that would be saved by implementing other facets of this proposed plan.

One proposal is to improve the welfare system so that it would provide different levels of welfare coverage according to the recipient's financial status—in other words, two different means tests. Some of the working poor and their families would qualify for a complete welfare package, including Medicaid, food stamps, child support, housing support, etc. Others whose needs are not as great would receive only Medicaid coverage.

The second solution would be for single working people to join together and form a health-care purchasing consortium. Such a consortium could be organized according to the worker's neighborhood or town, his occupation, or on the basis of any other common ground shared. They could also obtain coverage through business coalitions such as the Council of Smaller Enterprises and the local chamber of commerce. Members of the consortium would contribute to its general fund, and the consortium would pay the premium to the provider group directly or through an insurance company the same way that the large employer and Medicare and Medicaid would. By banding together, members of the consortium would increase their bargaining power and obtain a lower price for coverage than they could as individuals. The consortium also would be able to keep costs down by comparing the quality, service, and price offered by the different provider groups in its market share area and choosing the one that offers the best value for its members.

A consortium might be unwilling to accept an uninsured person who has many illnesses for fear that this person would use a disproportionate share of the budget pool. In this case, such a patient would be assigned by lottery to one of the provider groups in that market share area at the same rate negotiated by the consortium.

The third method would be to mandate that *all* employers provide health-care coverage for their workers. This could be accomplished without placing an undue burden on small businesses or penalizing them for their size. First, government would be encouraged to provide these small businesses with a tax break and/or other benefits, such as a loosening of the minimum wage requirements. Second, just like individuals, small businesses could keep their costs down by forming or joining a consortium.

Of course, there will always be people who decline to purchase coverage, preferring to take the risk and pay for healthcare out pocket as needed. These people might actuary be the wisest shoppers of all. In any case, they would be free to make their own choices.

Adoption of this plan would finally provide good health-care coverage for the 44 million uninsured working people in this country whose situation has for so long been an unsolvable dilemma.

Quality Assurance

In most walks of life, supervisors reprimand workers for *under*performance. In medicine, physicians are chastised for overperformance that is, *over*utilization. It does not matter to an HMO whether the provider is simply conscientious, unaware of the cost-benefit ratio, or is out for economic gain. Under our plan, physicians would be encouraged to use resources wisely because they would have a personal financial incentive to render the appropriate level of care. Overutilization wastes resources, while underutilization results in poor outcomes and patient dissatisfaction, which can lead to a loss of patient volume and perhaps a lawsuit. Moreover, underutilization leads to a higher severity of illness which leads to greater cost.

Naturally, fears would arise that with such a system the physician might be tempted to underutilize, that is to forgo a test or treatment in order to save money. Our proposal would counter any such inclinations by tying compensation to measures of patient satisfaction and outcomes, as discussed earlier. The medical director of each provider group would concentrate on monitoring *under*performance rather than *over*performance. Hence, a group or an individual provider who cut corners, had consistently poor outcomes, and/or received poor patient satisfaction reports would be disciplined and, if necessary, terminated from the program.

In addition, our proposal calls for three "patient's rights" safeguards:

1. All patients would have the right to file a complaint with the provider group as well as with outside agencies and the government. Groups that receive a large number of substantiated complaints could either be fined or have a contract revoked.
2. All patients would be able to complain to their employer or to their consortium's representative. Any employer or representative who received an excessive number of complaints about a particular provider group would most likely drop its arrangement with that group and purchase its coverage from a competing group at the first opportunity. Again, quality care would be assured by this market-driven element of the plan.
3. All patients would retain the right to sue their physicians and any other provider in the group.

These patients rights would be a powerful inducement not to cut corners. Physicians fear lawsuits, and with good reason. When a large corporation is served a lawsuit, it generally does not suffer an institutional emotional crisis. Large companies have staffs of in-house counsel and in most cases the wherewithal to defend themselves if they choose to do so. But when an individual doctor is sued, he or she finds it frightening and traumatic. Physicians do not have teams of lawyers in-house to defend them and their reputations. Hence, physicians are less likely than HMOs to cut corners in order to make a profit. Physicians are more averse to risk and more fearful of lawsuits than large corporations.

Staffing Underserved Areas

Certain remote rural areas and certain pockets in urban areas might find themselves lacking an adequate number of health-care providers. A volunteer system could be established—call it "HealthCorps"—wherein qualified generalists and specialists who have just completed their training would be recruited to help out in these underserved areas for two years. This system would not lower the standard of care because these same physicians would otherwise be practicing elsewhere.

As an inducement to join HealthCorps, participating physicians would receive some form of relief from the debt they incurred with student loans. Many physicians begin their professional careers with a debt load in the six figures. HealthCorps would be an attractive option for many young doctors. This program might also encourage low-income students to pursue a career in medicine.

Role of the Insurance Industry

Under our model, the insurance industry would play a significant role. It would underwrite coverage, handle actuarial calculations and other administrative functions, as well as provide stop-loss insurance, reinsurance, catastrophic insurance, liability insurance, and "wraparound insurance" for out-of-network and out-of-area coverage.

Other Alternatives

Congressman "Pete" Stark proposes for anyone to be able to buy into Medicare coverage by paying HCFA a certain premium per month, thus receiving the same care as Medicare beneficiaries. The "working poor" will receive subsidies from the government to buy into Medicare. This solution creates a single payor system which will simplify claims processing to a certain degree.

Another proposal is to have insurance coverage only for the expensive diagnostic procedures and hospitalizations, leaving patients to pay for office visits and consultations. However, these alternatives do not answer waste resulting from teams of claims processors within the system, inappropriate utilization, poor coordination of care, inadequate early intervention/disease management, and unnecessary admissions to hospitals and emergency room visits.

Implementation

It is not necessary for the whole nation to convert to this system overnight. It can coexist with other plans and be phased in slowly. The government can grant tax credits or other incentives to encourage large local provider groups to organize legally with proper infrastructure and personnel. In certain circumstances, insurance companies or large employers may be willing to sponsor or joint venture with large provider groups to adopt and develop this proposed plan. Without external stimulation, it is not easy to get large numbers of physicians working together … like herding cats. Under this proposal there will be no need to debate in Congress regarding patients' ability to sue the health plans or employers. Medical decisions are made between patient and providers. We would have given physicians the ability to organize legally into large groups for certain economy of scale/negotiation and yet not violate antitrust statutes. That is free-market competition. It takes the need out of debating the Campbell Bill. Perhaps the Campbell Bill can be modified to promote this proposed plan.

Conclusion

There are many other health-care plans throughout the country. We believe none is as comprehensive as the plan we propose here, none designed the detailed steps to align incentives between regulators, insurers, payors, providers, and patients as well as minimize wasteful spending and restore trust among parties. Our plan ensures universal coverage and it would save an abundance of money that could be used to lower premiums and provide coverage for the 44 million uninsured Americans. Our goals and incentives are concordant with the desires of all parties concerned. Our plan places trust in and reliance on the free-market system which has benefited our country like no other. It eliminates the antagonism that exists between parties in the health-care industry. It can be phased in and it needs the support from government, insurers, and large employers. We estimate that under our model, the percentage of the gross domestic product consumed by healthcare would fall below the current figure of 14%. No matter how health-care is financed or how much money is allocated to healthcare, until America develops a coherent delivery system that eliminates wasteful spending, restores trust, and aligns incentives between all parties, the chaos will not end.

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NOTE: Reader comments and opinions invited.—Ed.

Focus on Physician Health

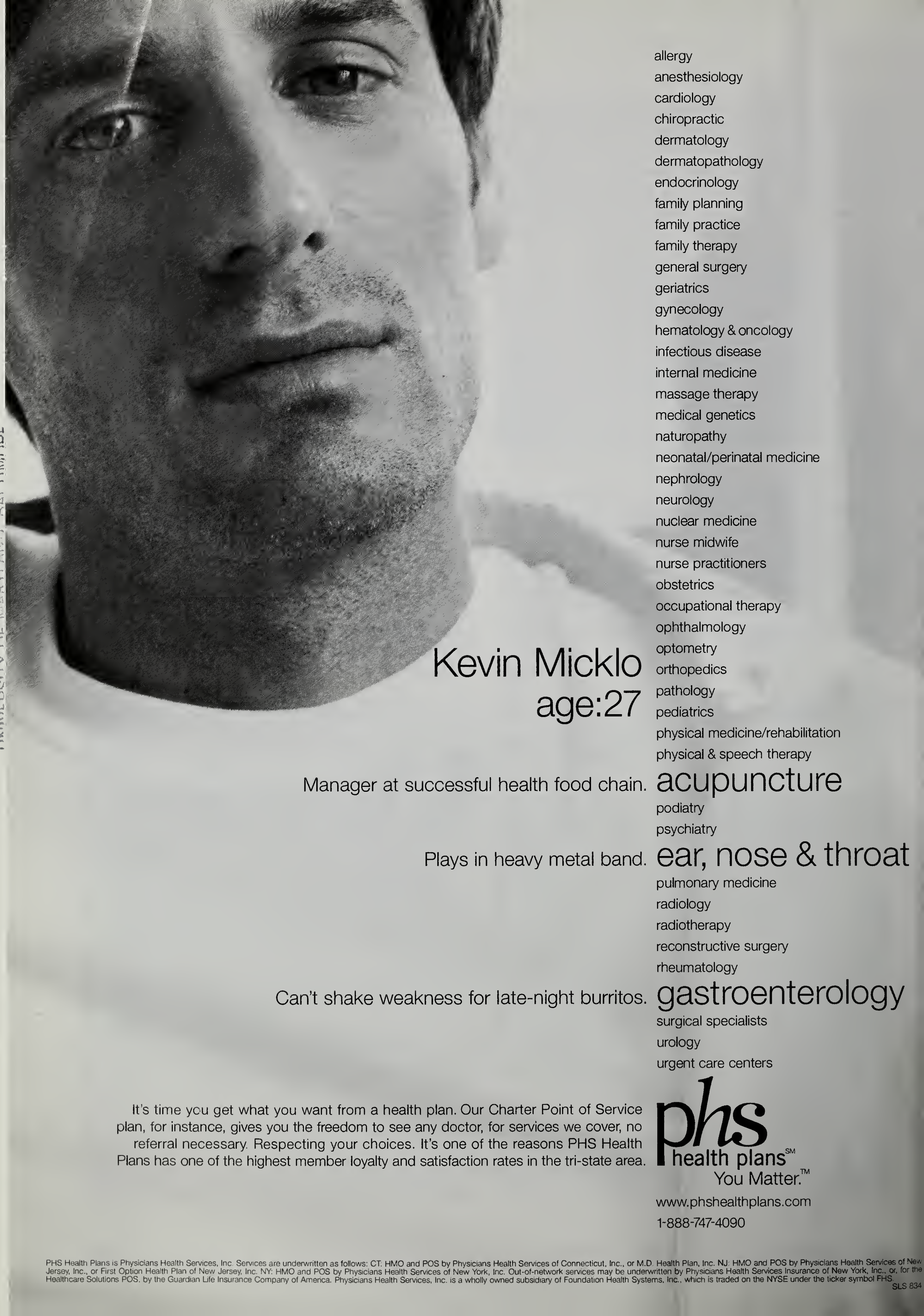
Confidential Assistance is Available

There may be an occasion when a physician would like to seek assistance in the form of psychotherapy, but may be reluctant to do so for various reasons. They may be going through a difficult time due to problems in their relationships, the loss of a loved one, dealing with the death of a patient, or the stress of litigation. The Physician Health Program would like to let physicians know of the availability of confidential assistance in this regard. The PHP has developed a listing of psychiatrists who have agreed to accept a certain fee for an initial visit with physicians referred to them by the PHP. The fee would be paid directly to these psychiatrists by the PHP and would be a one-time event per referred physician. If the psychiatrist and the physician/patient agree that they would like to continue, any additional visits would be by arrangements made by them and would not involve the Physician Health Program.

How can a physician access this assistance ? Call the PHP office (1-203-865-0587 **or** 1-800-635-7740) and ask for either Michele Norbeck (ext. 102) or Ann Luby (ext. 129). There is no need to give your name to anyone, not the receptionist, not Mrs. Norbeck, not Mrs. Luby. Simply state that you are calling for a referral through the PHP to one of the psychiatrists (as noted above - for an initial visit). You will be given names of those in your area. You will also be advised what to tell the psychiatrist so they can confidentially bill the PHP for this service.

Physicians who may request a referral to these psychiatrists are not PHP participants in programs of monitored rehabilitation (due to impairment by alcohol or substance abuse). These arrangements are not for PHP evaluation, treatment, or monitoring purposes.

For more information, please contact Michele Norbeck or Ann Luby at the PHP offices.



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SLS 834

Commentaries

Postmodern Medicine: New Doubts, Old Rules

> "The new French philosophers of the 1960s—the most influential of whom were Gilles Deleuze, Jacques Derrida, Michel Foucault, and Jean-Francois Lyotard—also wanted to fight the political and academic establishment.... They seemed to announce the end of rational inquiry into truth, the illusory nature of any unified self, the impossibility of clear and unequivocal meaning, the illegitimacy of Western civilization, and the oppressive nature of all modern institutions."
>
> Cahoone, L.E.
> *From Modernism to Postmodernism: An Anthology*, 1996[1]

We physicians were too busy to sense all the negative effects of postmodernism at the close of the 20th century. Postmodern attitudes infiltrated literature, architecture, arts, and sciences; medicine was not immune. We didn't recognize the earliest signs of this infestation of the structural foundations of Western civilization. But our experience of medicine at the end of the century left many of us with a lingering sense of doubt, in spite of dramatic technical advances on all fronts. Even breaking the code did not set us free.[2]

Postmodernists regard all natural sciences, philosophy, literature, architecture and arts as human cultural products. This seems reasonable enough. But objectivity and unquestioned validity are nowhere to be found. Only collective perspectives determined by culture decide what is meant. A panoply of postmodern doctrines now invade most facets of life in advanced societies of the Western world. Postmodernism subtracts objectivity and ideals from works of art, leaving only transient, emotional, subjective elements. The subjective self does not make culture: culture makes the self.[1] Culture decides which art is "great." The external world is unknowable. Reality consists in appearances, and cultural forces define which are significant. Cultures vary with distributions of power. Social rituals of power determine what human groups believe. Religion is an obvious example. Revolution is another. Belief is more powerful than knowing. Imagine the French Revolution and the Terror—one belief system violently replaced by another. Meanings change, filled with subtexts that obscure rather than clarify. Facts are subject to interpretation. Principles of reason are under attack across the Western world. Crowd-think, not individual judgement, is the postmodern arbiter of what is right and true. Crowd-think is unreflective thought in its original tribal form. Examples abound.

The mind of Western civilization is European: its soul is Greek. The Bible of the Greeks, the *Iliad* and the *Odyssey*, are attributed to the blind poet Homer in the 8th or 9th century BC. Homer created an heroic past with his tales of Achilles and Odysseus. Greek descendants of these heroes turned back the Persian hordes, defending their islands and little peninsula, the gateway to Europe. Greeks invented the Western foundations of democracy, philosophy, medical science, architecture, and art. Postmodernism is a radical assault on these foundations. What actual evidence is there for the real existence of the blind poet? None. How could the epic verse and heroic grandeur of the *Iliad* and the *Odyssey* have been composed by illiterate Greeks of the 8th or 9th century BC? Postmodern scepticism seems legitimate.

Physicians pay lip service to ancient Greeks when we call our profession Hippocratic. Most of us know very little about Hippocrates when we take the Oath and swear in his name. He was born on the Aegean island of Cos in 460 BC, son of the Asclepiad Heraclides, the 17th descendant of Asclepius the god of medicine, and the midwife Phaenarete, the 18th descendant of Hercules.[3] Asclepiads were physician-priests who treated body and soul. Hippocrates first learned medicine from his father, which was the Greek way. He travelled to Athens, where he studied under the Sophist Gorgias and his brother the physician Herodicus. From them he learned the humoral theory of the physician-priest Empedocles and the Pythagorean medical lore of Alcmaeon. Alcmaeon taught that the brain is the organ of sensation and consciousness.

Hippocrates treated victims of plague at Athens, Abdera, and Illyria and King Perdiccas of Macedonia. The wife of Gorgias was one of his patients. Gorgias stressed focusing the senses as the only boulevard to knowledge . One learns only by direct observation. Many see, few observe. Hippocrates learned medicine from Democritus, the inventor of atomic theory, a man considered insane because he dissected animals in public. Democritus had been to Egypt, Persia, and India. Hippocrates travelled for 12 years as an itinerant physician or "periodeutes" in order to learn as much as possible. Hippocrates lived in Asia Minor on the Black Sea, on the isle of Thasos, and also in Egypt. He died at Larissa in Thessaly in 377 BC. The *Corpus Hippocraticum* contained 53 works by noted Greek physicians, including Hippocrates. He earned the respect of Plato. Like Alcmaeon a century earlier, Hippocrates dissected the brain and its nerves of sensation. Hippocrates knew that each half of the brain moves the opposite limbs. The cause of convulsive movements must reside in the brain. Hippocrates divided medicine from myth. Epilepsy was no longer "the sacred disease," demonic possession by gods, but an inflammation of the brain. The gods evaporated. Reason demanded material cause. His paper on epilepsy remains a classic. Objectivity was the great gift of Hippocrates to the practice of medicine.

Hippocrates, Aristotle, and Galen were the most influential Greeks on the topics of medicine and biology, the sciences of life. The fact that great individual Greeks expressed their own convictions emphasized the central place of the individual in Western civilization. Aristotle, son of the physician to King Philip of Macedon, was trained in dissection and medicine. "The reader" at Plato's Academy, Aristotle set the ancient standard for acquiring knowledge in every field. Convinced of his own powers of reason, Aristotle invented formal logic. A method of proof was now available beyond the compelling beauty of Plato's prose. Aristotle described 500 animal species, given Darwin's highest praise. His pupil Alexander sent exotic creatures from the Orient back to Athens. Galen achieved fame treating the wounds of gladiators in the Greek city of Pergamon. Greek physicians were also surgeons. Galen studied at the famed library at Alexandria, founded by the grandson of Aristotle. Works of great Greeks were classified by Master, all mathematics under "Euclid," medicine under "Hippocrates," logic under "Aristotle," etc. Galen, Greek physician to Emperor Marcus Aurelius, wrote 500 books on all topics, medical, philosophic, literary, etc., more than any writer in antiquity. Only 80 have survived. Galen experimented on animals, advancing the science of proof. Greeks became teachers of Romans, their knowledge transmitted to Europe. But Greeks knew that knowledge does not guarantee power. Wise Greeks were acutely aware of the limits of knowledge. I know I do not know, said Socrates. They called arrogance "hubris," man's fatal flaw.

Contemporary physicians blame our problems on managed care, but our troubles lie deeper. We loosened our sacred covenant with the individual, Greek medicine's oldest law. We invented managed care. Now others control it. We allowed money-changers into the temple. Knowledge of medicine did not guarantee our power. At the foundation of managed care lies a false assumption, as flawed as one of Euclid's axioms (parallel lines never touch) which led to the discovery of nonEuclidean geometries. Lines of longitude, parallel at the equator, touch at the poles. Euclidean flat space does not fit the real world of modern physics, any more than flat two-dimensional managed care fits the deep realities of caring for the sick. The flaw is the business axiom that everything can be managed, including care. Wise old Greeks call this hubris. Important aspects of human life cannot be managed. Human life is labyrinthine, Proustian in detail. Some costs are hidden. Deep costs cannot be put in economic terms. The temple is not a bank. Individuals are not integers. Knowledge has limits.

Business assumes all can be managed. What cannot be managed can be reengineered, or managed in a new way. According to Hammer and Champy, "Reengineering a company means tossing aside old systems and starting over."[4] Reengineering medicine distorts: patients become "customers," physicians "providers," diminishing both. A once honored profession is now a "health-care industry." Physicians are subsumed by the "health-care team," with nurses, therapists, technicians, chiropractors, etc. The old medical system is turned on its head: providers are rewarded for not providing access to care, capitation binds providers to groups, not individuals. Obscene profits flow to captains of industry. Patients are left wanting. First do no harm. Business machines do not generate care. Yet business assumes all can be managed. This is classic "ipsedixit": assertion without proof. The term means "He Himself said it," Pythagoras Himself, treated like God by his followers. Nothing stops the march of business today. Moloch is the new god. Even a casino dealing games of chance is managed. The market is gauged by Greenspan. Donations are made to both political parties. The needle's eye enlarges to admit wealth. Lobbyists pass through its dilating pupil. Tax-breaks are obtained no matter who is victor. The American Business Party always wins. HMOs dump the elderly: the old get sick. Yet HMOs are immune from litigation. The Supremes are unanimous. All bets are hedged. The croupier has no heart. All is managed—except life, death, and care.

In what direction, as a profession, are we heading?[5] Can we regain control? Do we understand the driving forces of contemporary culture? One of these forces, postmodernism, destroys the old rules. It is a cannibal, an eating machine. Another of these forces, the Internet, is an aggressive transcultural power released from its military cage. It creates new machine rules and virtual realities, uniting diverse groups and individuals, crossing cultural and national boundaries, yet isolating individuals from one another as each of us gathers electronic data. The global spread of immediate information is now exponential. Fictions fly as fast as facts. What new power arrangements will emerge to decide future truth? The Internet is perfect proof that all cannot be managed. It defies taxation. It is out of the box. What happens to individuals who spend their waking hours receiving and sending through machines? What do human binaries feel? Will our new electronic unions and divisions carry us beyond culture, or beneath it? To be digital is to be split in two.

Postmodernism asks troubling questions, then leaves them open and unanswered. Its questions possess no unequivocal meanings. Uncertainty prevails. Reason is indecisive. Causation is shaken. Old structures of Western civilization, grand gifts of the Greeks, crumble before our eyes. By loosening bonds with the past, postmodernism tightens current human bondage. Individuals become captives of their genes, cultures, and machines. Now we are bound by nature, nurture, and the net. Postmodernism cannot prove its own validity, but neither can its alternatives. Truth as old as the hills no longer satisfies. Postmodernism leaves us with the metallic taste of lingering doubt, as we leap into the bottomless ocean of a new age.

Charles W. Needham, M.D.
Norwalk

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The Good Guys Win ... At Long Last

On 8 May 2000, after a five-year ordeal for the participants, the United States District Court for the District of Connecticut affirmed the public policy embodied in Connecticut's peer review statute and granted immunity from suit to participants in medical peer review. On that date, Judge Warren W. Eginton granted the defendants' motion for judgment in the case of *Podgurski v. Grey, et. al. and Hartford County Medical Association.*

The route to this significant outcome was long; many disappointments were encountered along the way. Persistence finally paid off and, with this decision, future courts should recognize the importance of protecting peer review participants from litigation arising out of a physician's service in this important task, so key to assuring quality health care for the citizens of this state.

The saga started in mid 1993 when the plaintiff, then a resident physician at the University of Connecticut Health Center, caused her program director and his assistants concern that, possibly because of some impairment, she might not be able to practice medicine safely. As a result, a call was placed to Dr. Neil Grey, chair of the Hartford County Medical Association Committee on Physician Health, for his assistance. Along with his staff assistant, Michele Norbeck, then at HCMA, Dr. Grey conducted an interview of the resident physician on 26 July 1993. As was the usual practice, Dr. Grey requested that she undergo an independent psychiatric evaluation to rule in or out psychiatric or emotional factors which could affect performance and ability to practice. The plaintiff flatly refused to do so. The results of the interview, including the refusal to undergo the examination, were documented in a confidential report to her program director.

Thereafter, although no steps were taken to remove her from the program because of her refusal of Dr. Grey's request, things went from bad to worse for this individual. Several months later, for a number of reasons, she left the program. Subsequently, on 23 October 1995, she initiated this lawsuit which claimed, under a number of legal theories, that she was defamed by Dr. Grey both in his report and in oral conversations with her program director. My firm, Day, Berry & Howard LLP, was retained to defend Dr. Grey and HCMA.

Of utmost significance to this litigation is the fact that the importance of peer review to the maintenance of quality care has been recognized by the Connecticut General Assembly. By the enactment of Connecticut General Statute Section 19a-17b, our legislature not only eliminated monetary liability for peer review participants, but also afforded them immunity from suit for any claims arising out of their peer review activities. Application of the statute, however, is the role of the court system. There is but one exception to the immunity shield under this statute and that arises only when the peer review participant is acting with malice and not in good faith, and it is the court which must deal with the question of when, and whether, this exception comes into play.

In this case, there was never a scintilla of evidence that Dr. Grey acted other than in good faith. After necessary discovery was completed, we filed a motion for summary judgment on 3 September 1997 on behalf of Dr. Grey and HCMA. In his Ruling of 5 January 1998, Judge Alan H. Nevas denied us summary judgment. Although recognizing the applicability of the peer review, he placed the burden of proving the *absence* of malice on the defendants. Thus, it would be left to Dr. Grey and HCMA to proceed to trial and ask the jury to find that they should not have been subjected to trial in the first place, a procedure seemingly inconsistent with the very purpose of the immunity-from-suit provisions of the peer review statute.

Soon thereafter, Judge Nevas decided to transfer this case from his docket to that of Senior Judge Eginton for trial. With a new judge in the picture, we thought it was in order to raise the peer review statutory immunity issue in a different context: an *in limine* hearing, prior to trial, to obtain a ruling on the right of Dr. Grey and HCMA to be immune from suit, and, if the right to immunity was found, to have judgment entered for the defendants. The hearing was held on 3 June 1998. Evidence was then presented which we thought conclusively established immunity under the statute. However, eight days later, Judge Eginton, relying totally on the prior ruling of Judge Nevas, held that it was for a jury to decide whether there was malice and a lack of good faith which would result in the denial of immunity. Again, the burden of proving good faith and the absence of malice was placed on Dr. Grey and HCMA.

Judge Eginton ordered the case to proceed to jury selection on 15 June 1998, but this did not take place because we appealed his ruling to the Court of Appeals of the Second Circuit. Although the Second Circuit generally considers only cases fully and finally adjudicated in the District Court, we argued that the Order of Judge Eginton, denying the *in limine* motion and ordering Dr. Grey and HCMA to trial, *was* a final decision as far as their right to immunity from suit was concerned. As had been previously articulated in the various memoranda submitted to both Judge Nevas and Judge Eginton, in our Second Circuit brief we stressed the public interest in assuring that physicians practice medicine with skill and safety, and the legislature's recognition of how peer review served this public interest by its granting immunity from suit to participants in the process.

Because of these overriding public health policy issues, our appeal received support by way of *amicus curiae* briefs from the Connecticut State Medical Society, the Connecticut Hospital Association, and the American Medical Association. Attorney General Blumenthal was asked for similar support, not only because enforcement of a Connecticut statute was involved, but because medical peer review is a concern in the state facilities, such as the University of Connecticut Health Center, providing medical care. His office did not choose to join with CSMS, CHA, and the AMA as an *amicus.*

After oral argument before a three judge panel of the Second Circuit, on 21 July 1999, our appeal was dismissed on narrow technical grounds. This proved to be a Pyrrhic victory for the plaintiff. In its Order, the Court went out of its way to make the point that the dismissal should not be read to indicate that the panel agreed with the rulings of Judge Nevas and Judge Eginton. It specifically invited the District Court to reconsider the entitlement of Dr. Grey and HCMA to immunity from suit. In particular, on the critical issue of which party should bear the burden of proof to establish malice and lack of good faith, the Second Circuit strongly indicated its view that this should be plaintiff's burden, not that of Dr. Grey or HCMA. Reading between the lines of its Order, the Court of Appeals basically told us that we were right, but that the District Court should be afforded another opportunity to straighten out the situation.

We then immediately requested a conference with Judge Eginton to discuss the best way to effect such reconsideration. Judge Eginton was not available for such a conference until 30 November 1999 when he suggested that we renew our motion *in limine* and for judgment. The renewed motion, with a supporting memorandum, was filed on 16 December 1999. Although counsel for the plaintiff filed a memorandum in opposition, there were no further hearings or oral argument before Judge Eginton issued his decision granting judgment in favor of Dr. Grey and HCMA, finding that the plaintiff had failed to sustain her burden to demonstrate that substantial affirmative evidence exists to support the claim that Dr. Grey was motivated by malice. The time for the plaintiff to bring an appeal has now expired. The judgment is final.

It is to be hoped that no medical peer review participant will ever again have to go through this crucible to establish the right to immunity from any suit arising out of peer review proceedings. What Dr. Grey and the Hartford County Medical Association have gone through should operate to ward off future assaults on the peer review process and its participants. The history of this litigation must operate as a deterrent to any future attempt to use the courts to attack a peer review participant. That a dissatisfied subject of a peer review proceeding would challenge the result and seek some sort of redress in the courts in spite of the peer review statute was probably inevitable. It can be argued that in their initial interpretation of a statute, courts should proceed carefully and cautiously. That being said, it is hard to understand in this instance why, what would appear to have been the obvious conclusion, was reached only after such a long and tortuous journey. Now that it is done, no one else should have to experience this travail. Let us hope that if such cases are brought henceforth, that early on, a hearing will be held on the peer review participant's entitlement to immunity, with summary dismissal of the litigation unless a plaintiff can come forward with substantial evidence of malice.

As counsel privileged to represent Dr. Grey and Hartford County in this case, I would like to take this opportunity to thank CSMS, CHA, and the AMA for their *amici* briefs, and to express my appreciation to their able counsel, Michael Neubert and Patrick Monahan, not only for the high quality of those briefs but for their wise and helpful input to our arguments and strategy. Most of all, however, I must thank and offer praise to the real heros of this saga, Neil Grey and the leadership of the Hartford County Medical Association, who steadfastly stayed the course and never lost hope even in the darkest days.

Philip S. Walker, Esq.
Hartford

50 Years Ago

From *The Connecticut State Medical Journal*

August 1950

The Need for Standardization of Breast Cancer Records

ROLF KATZENSTEIN, M.D., ROBERT J. KERIN, M.D.,
and ALLAN J. RYAN, M.D., Meriden

Dr. Katzenstein. *Pathologist, Meriden Hospital, Assistant Clinical Professor Pathology, Yale University School of Medicine*
Dr. Kerin. *Intern in Pathology, 1948-1949, Meriden Hospital*
Dr. Ryan. *Attending Surgeon, Meriden Hospital*

INTRODUCTION

This study was undertaken to determine whether the records of patients with breast cancer at the Meriden Hospital were adequate to provide information in addition to that already published by the Division of Cancer and Other Chronic Diseases of the State Department of Health. Approximately 70 per cent of the Tumor Records of the Division of Cancer originate in institutions similar in size to the Meriden Hospital whose medical staffs are of a similar composition. For this reason it was thought that the records coming from this institution might provide an index for what to expect from the records of approximately 70 per cent of breast cancer cases in Connecticut. Thereby, a tentative conclusion might be drawn from the results of this study as to the suitability of the records for further statistical analysis.

MATERIAL

The number and type of procedures as indicated in the Division of Cancer statistics, in the tumor records of the Meriden Hospital Tumor Registry and in the original charts were compared.

An attempt was made to determine in retrospect the surgical grade of the tumor at the time of operation either from the tumor record or the original chart and in order to verify the surgeon's statement of having performed a radical mastectomy, the original descriptions of the specimens by the pathologist were subjected to a critical analysis.

Five year and more salvage was determined for the period of 1935 including 1942, and simple survival rates were determined for the periods of 1942 including 1947.

TOTAL NUMBER OF PROCEDURES

120 cases of cancer of the breast were given surgical treatment at the Meriden Hospital from 1935 through 1947. Of these, 90 are listed as radical mastectomies by the Division of Cancer with 18 being designated as questionable. The Meriden Hospital Tumor Registry claims 79 and the surgeons at the Meriden Hospital in their operative records claim only 56 radical mastectomies. The following criteria were considered to constitute a radical mastectomy: removal of the entire breast, the pectoralis major, the pectoralis minor and the axillary contents. In these 56 cases two are included in which the operative record was ambiguous so that a definite conclusion as to the surgical claim could not be drawn. They also include two cases of radical mastectomy studied at autopsy in which part of the axillary contents and part of the skeletal muscle were found. Two other cases are in this number which the pathologist's remark about the specimen raises a question as to whether they were subjected to a radical mastectomy. All the other 64 procedures were not radical mastectomies and included biopsy, local removal, simple mastectomy and what has been termed by the authors as radical mastectomy in stages, meaning that one or more of the four constituents of a radical mastectomy were removed at intervals varying from months to several years. The relative incidence of radical mastectomies as described by the

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Reprinted from the *Connecticut State Medical Journal*, August 1950.

Meriden Hospital surgeons, the Meriden Hospital Tumor Registry and the Division of Cancer is charted in Table I. It is of interest to note that the tumor records of the years 1935 through 1944 were abstracted from the hospital charts by workers from the Division of Cancer Research.

GRADING AND STAGING

The available data concerning the tumor were compiled for each case and tabulated by year in Table II. They include size, relation to skin and to underlying tissue, and the condition of the axillary contents. Accurate statements are lacking in 32 per cent as to localization, in 57 per cent as to size, in 68 per cent as to relation to neighboring structures and in 40 per cent as to the condition of the axillary lymph nodes. It is apparent that in a considerable number of cases the surgeon did not trouble to record the stage of the cancer, though he might have had a good mental picture of it. Table III is an example of what data are available for the staging of carcinoma of the breast in the year 1941, for example.

Hoping that the pathologist's descriptions of the specimens would provide enough information to determine the stage of the tumor, these were studied for the following criteria: determination of tumor size; presence or absence of pectoralis major and minor; absence, or presence and completeness of removal of the axillary contents. The surprising and disappointing results of this study are tabulated in Table IV. The tumor was not measured in 38 per cent, an accurate statement as to presence or absence of both pectoral muscles was lacking in 83 per cent, and more than 10 lymph nodes were found in only two specimens.

The only available positive and reliable criterion for staging breast cancers is the presence of axillary metastases, which, however, classifies the tumor in stage II.

SURVIVAL

In order to study factors influencing the five year survival rate our series has been divided into two groups. The first group consists of those patients treated from 1935 through 1942; the second group, of patients treated from 1943 to 1947.

Twenty-eight radical mastectomies were performed during the period 1935-1942, in which 12 patients had axillary metastases at the time of operation, and in 8, axillary metastases were said to have been absent. There was no definite statement as to their presence or absence in 7 cases, and in one case no axillary contents were found by the pathologist. During the period from 1943 to 1947, another 28 patients were subjected to radical mastectomy of which 12 had axillary metastases, 14 did not have axillary metastases, and in 2, nothing definite is stated about the axillary contents.

Of the 28 cases subjected to radical mastectomy from 1935 to 1942, 12 or 43 per cent, were alive at the end of five years. During this same period of time 37 cases received surgical treatment other than radical mastectomy, or "inadequate surgery," of which 16 or 43 per cent attained a five year survival. Thus, the overall five year salvage of both groups is identical, regardless of the surgical procedure accorded the patient.

If, however, the presence or absence of axillary metastases are taken into consideration when computing the survival rate a striking difference becomes apparent. (It is obvious that this can be done only for those patients having had a radical mastectomy.)

Of the 28 cases receiving radical mastectomies from 1935 to 1942, 12 had demonstrated axillary metastases at the time of surgery, of which 9 were dead at the end of 45 months. Of the 8 cases without metastases, 5 lived a minimum of 76 months following surgery.

Regarding the 28 cases of radical mastectomy from 1943 to 1948, the 12 with axillary metastases are all dead less than 50 months following the procedure. In contrast, of the 14 without metastases only 2 are dead in less than 32 months. Enough time has not elapsed to evaluate the salvage of this group in terms of five year survival, but the

TABLE I

NUMBER OF RADICAL MASTECTOMIES PERFORMED AT MERIDEN HOSPITAL 1935–1947

YEAR	MERIDEN HOSPITAL OPERATIVE RECORD	MERIDEN HOSPITAL TUMOR RECORDS	CANCER RESEARCH DIVISION
1935	4	3	5-? ?4
1936	I	1	4-?3
1936	2	2	4-?1
1937	6	8	8-?1
1939	2	5	6-? I
1940	0	2	4-? 2
1941	7	10	9
1942	6	8	8-? 1
1943	4	10	10-?1
1944	8	9	10-? 1
1945	4	6	7-?1
1946	3	4	4-? I
1947	9	11	11-?1
TOTAL	56	79	90-? 18

Review of records in the Cancer Research Division caused a question to be raised about including 18 cases as indicated in that column.

TABLE 11

STAGING OF BREAST CANCER BY THE SURGEON

	LOCATION		SIZE			RELATION TO NEIGHBORING STRUCTURES			AXILLARY NODE	
YEAR	ACCURATE	NOT STATED	MEASURED	INACCURATE	NOT STATED	MEASURED	INACCURATE	NOT STATED	STATEMENT	NOT STATED
1935	4	2	2	1	3	2	2	2	3	3
1936	1	2	1	1	1	0	2	1	2	1
1937	3	2	1	3	1	2	0	3	2	3
1938	7	2	3	4	2	3	3	3	8	1
1939	9	1	6	2	2	2	4	4	7	3
1940	7	2	2	5	2	3	3	3	6	3
1941	9	3	1	9	2	6	6	0	5	7
1942	8	3	8	1	2	5	4	2	10	1
1943	12	4	10	2	4	2	3	11	8	8
1944	5	6	7	2	2	3	3	5	7	4
1945	4	7	4	4	3	4	3	4	7	4
1946	4	1	1	3	1	2	1	2	3	2
1947	9	3	5	4	3	4	4	4	5	7
Total	82	38	51	41	28	38	38	44	73	47
	(68%)	(32%)	(43%)	(57%)		(32%)	(68%)		(62%)	(40%)

early demise of those patients with axillary metastases is unmistakeable evidence of their poor prognosis.

The survival rate of a peculiar group which was called mastectomy in stages is worthy of mention. The initial of several procedures of this operation varied from local excision of the breast tumor to simple mastectomy. These were followed by removal of skeletal muscles and/or axillary metastases at time intervals varying from 6 months to several years. This group comprises 7 patients, of whom 4 were living at the end of 5 years, 3 at the end of 6, 3 at the end of 7, 2 at the end of 8, and 1 at the end of 10 years. Some were known to have recurrence of cancer.

DISCUSSION

It is generally agreed that the data collected by the Division of Cancer Research, at the State Department of Health, represent a unique amount and type of information concerning cancer. Statistics concerning the incidence and survival rates of patients afflicted with cancer in varying anatomical locations have been published and more information should be forthcoming. The (desired) additional information should include such data as to how operative or other therapeutic measures influence survival rates of cancer patients whose lesions have been staged in detailed fashion. In regard to cancer of the breast it is desirable to know what influence radical mastectomy exerts upon the survival rate when such factors are considered as, (1) the localization of the tumor in the breast, (2) the size of the tumor, (3) the involvement of one, two or three groups of axillary lymph nodes by metastatic foci, or any combination of these three factors.

In their present form the records in our series supply reliable information, only as to age, symptomatology, signs, family history and survival rate. As has been shown in our series, only in a minority of cases can any desirable additional information concerning localization and tumor size be garnered from the charts. The only additional factor that can be included in a critical analysis of the success of surgical therapy is the presence of axillary nodes as included in the pathologist's diagnosis.

The absence of axillary metastases as noted in many of the specimens of our series cannot be considered valid evidence of absence of metastasis since only two descriptions of axillary contents were found in which more than 10 lymph nodes were mentioned. In none of the descriptions was reference made to the different groups of axillary lymph nodes as they should have been found. This indicates either incompleteness of the removed axillary contents, or lack of thoroughness on the part of the pathologist, or both.

No additional desirable knowledge can be gained from the available records. The survival rates of patients with stage I cancer of the breast, versus those with axillary metastases treated by radical mastectomy are now well known and established. The poor salvage rate of the latter group which averages approximately 25 per cent five year survival in most series, clearly establishes the deficiency in the present regime of therapy. Considering the charts in their present condition, it is impossible to evaluate this deficiency in terms of the radicalness of the surgery or the degree, extent and localization of axillary metastases.

Table 111

DESCRIPTION OF 12 TUMORS BY SURGEONS, 1941

SIZE	LOCALIZATION	ATTACHMENT	AXILLARY NODES
Egg	Quadrant	To skin only	No nodes
Orange	Quadrant	Blue skin over tumor	No statement
Prune	No statement	Ambiguous	No statement
Hazelnut	Quadrant	To skin and deeper structures	No statement
Large mushroom	Quadrant	Easily movable	No glands
Large oyster	Quadrant	Skin fixed	No statement
Hickory nut	Quadrant	Ambiguous	No statement
No statement	Quadrant	Skin is red and is movable over base	Nodes in axilla
Fist	No statement	Non-adherent not involved	Axillary nodes
Fist	Quadrant	Ambiguous	No statement
Measured in cm.	Quadrant	To skin, not to deeper structures	No nodes
No statement	No statement	Fixed to periosteum of ribs	No statement

Table IV

PATHOLGIST'S RECORD IN 54 "RADICAL MASTECTOMIES"

TUMOR		PECTORAL MUSCLES				AXILLARY NODES			
MEASURED	NOT MEASURED	MAJOR	MINOR	SKELETAL MUSCLE	STATED	COUNTED	STATEMENT VAGUE	NOT PRESENT	NOT STATED
34	20	9	8	40	5	19*	30	2	3
Total	54				54				54

*In only 2 cases were more than 10 nodes counted in the axillary contents

The question arises as to what factors can be held responsible for the inadequacy of the records at our hospital. At least four surgeons do breast surgery in a hospital of the size of our institution. It is readily seen that differences in training, ability, technique, thoroughness and sincerity among such a group will cause marked variation in the surgical procedures used and the quality of records. It can be safely assumed that the same or similar conditions prevail in the hospitals of equal and smaller size in this state. Approximately 70 per cent of cancer patients are treated in institutions of this type. If additional worthwhile knowledge on patients with cancer of the breast is wanted, the recording both by the surgeon and the pathologist will have to be not only standardized but detailed enough to allow us to obtain this knowledge.

CONCLUSIONS

Forty-three per cent of women with cancer of the breast in this series survived for five years or more after operation, regardless of whether they were subjected to "radical mastectomy" or some inadequate surgical procedure. However, if axillary metastases were present 25 per cent obtained five year survival, even if subjected to "radical mastectomy." Since axillary metastases were described in less than half of the 56 cases of "radical mastectomy" studied, it must be concluded that the low overall survival rate is due to failure of removal of involved axillary lymph nodes by the surgeon. The failure of the pathologist to identify all the lymph nodes or small metastases in the operative specimen classified certain cases of breast cancer in stage I without justification.

Reported five year survival rates for breast cancer without axillary metastasis, which show a variation between 40 per cent and 90 per cent, may well be accounted for on the same basis. It should be noted that the Meriden survival rate for this group, which we have demonstrated not to be identified adequately, is 62.5 per cent, which approximates the statistical average for all other reported series, about 67 per cent.

The survival rate following "radical mastectomy" in this series, as in apparently many other series, cannot be reasonably said to be based upon a clearly defined method of treatment carried out and recorded in uniform fashion.

Any trend toward a greater salvage as expressed in five year survival rates regarding patients with breast cancer cannot be correlated with present surgical procedure. It may only reflect the fact that a greater number of women with cancer of the breast are presenting themselves to physicians for diagnosis, and treatment, and at an earlier stage of the disease.

SUMMARY

The original records and Tumor Records of the cases of cancer of the breast as observed at the Meriden Hospital have been subjected to a critical analysis.

Discrepancies were found regarding the numbers and types of procedures as indicated in the original charts, the tumor records and the State Department files. Only fifty-six procedures were claimed to be radical mastectomies on the original charts, and 79 on the tumor records, whereas the records of the State Department designate 90 as such with 18 questionable.

Accurate statements concerning the breast tumor are lacking in the following proportions: 32 per cent for localization, 32 per cent for size, 57 per cent for relation to neighboring structures and 40 per cent for axillary lymph nodes.

The analysis of the 54 available descriptions of specimens obtained at radical mastectomy shows lack of measurements of the tumor in 38 per cent, lack of accurate description as to the presence of both pectoral muscles in 83 per cent and lack of evidence of thorough study of the supposed axillary contents in 64 per cent.

The presence of axillary metastases as found by the pathologist is the only positive evidence in an effort to determine the stage of the tumor. The inadequacy of surgeons' and pathologist's reports prevents use of the available material to study the correlation between localization of cancer in the breast, invasion of neighboring structures, status of axillary lymph nodes, surgical treatment and survival.

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FROM THE EDITOR'S DESK

Many Ounces, Many Pounds

As we read about the recent 13th World Conference on AIDS held in Durban, South Africa, it is impossible to escape from noticing the staggering toll that HIV is taking on the human race. Thirty-four million persons in our world are currently infected with the virus and 25 million of them are on the African continent, mostly in its sub-Saharan countries. Among the saddest is South Africa, host to the conference, where it is estimated that 20% of the adult population now harbors HIV. Amidst the burst of freedom and the quest for racial equality in this early post-apartheid era the health of the population is an overwhelming problem. Unfortunately, Thabo Mbeki, successor to Nobel Peace Prize-winner, Nelson Mandela as president, publicly feeds doubts as to whether HIV is really the cause of AIDS.

The worldwide death toll has now reached 17 million, advancing towards, and virtually certain to reach the mortality of the influenza pandemic of 1918–1919 of 21.6 million, twice the death toll of the Great War concluded at the same time. Between the two, some countries essentially lost a generation of citizens. Comparisons are made between losses from AIDS and losses from war. Casualties in war are mostly young males; those from AIDS, especially in the developing world are young, both men and women. The AIDS pandemic is creating orphaned children at a sickening pace, 11.2 million so far, 10 million of whom are in Africa. Not only are these children deprived of parents to guide and nurture them but sickness and death among the young adults deprive them of teachers, community leaders, doctors and other professionals, to say nothing of the future scarcity of poets, musicians, artists, and athletes. The uninfected, in thinned ranks, suffer overwork and burn-out.

Some ancient sage wrote, "An ounce of prevention is worth a pound of cure." The scientific and health care communities of the world, including those in the U.S. and in Connecticut will be called upon to deliver many ounces of prevention and many pounds of cure before the terrible toll of HIV infection is reversed, if it ever is to be. Every day our media emphasizes the "global economy" in which we are now living: oil, transportation, finance, technology, environment; if changes occur somewhere on the globe, those changes affect us here in the U.S., here in Connecticut. We notice when our IRAs rise and fall in value in response to economic changes occurring elsewhere on the planet. We make protective adjustments on our own behalf. Call it a survival ethic if not a preservation-of-affluence ethic.

We who are engaged in the preservation and restoration of health for our constituents are now called upon to lead the way in creating a sense of "global health" that is equal in importance to the "global economy," and if altruism won't suffice then self-preservation, as in the economic parallel, will serve. With the current tally of just over 800,000 HIV-positive persons in the U.S., we as a nation are not in the dire straits that have submerged the public health systems of the countries in sub-Saharan Africa. A "global" mentality is essential especially as we acknowledge that much closer to home, in the Caribbean, the HIV infection rate is high. Some consider that area to be the source of the earliest AIDS cases in the U.S.

Bringing about the sociological changes that will tame the spread of HIV infection is a daunting task indeed. In many developing countries women and young girls lack the status and power to thwart sexual predation. Among the orphaned females reaching their teenage years, sex for money is viewed as the only antidote to hunger. Young mobile men in South Africa, transplanted from a true family environment in search of employment, have multiple sexual partners and openly denounce condom use. Before declaring failure of educational efforts, however, it is worthwhile to note the reductions in infection rates that have been achieved in Uganda and Senegal largely on the basis of counseling and education regarding high risk sexual behaviors. As to the infection of infants whose mothers are HIV-positive, their infection does not result from in utero transmission but rather during the transit down the birth canal, or from the mother's breast milk. The cost of replacement formula feeding is prohibitive under the present economic conditions in Africa, and until pure water supplies can be assured the contaminated water to make up the formula brings its own health threats to the newborn infant. Antiviral therapy with AZT, less expensive than the protease inhibitors so commonly utilized for the treatment of HIV infection in the U.S., have been of benefit in reducing perinatal transmission but have not yet been widely applied in Africa because of cost.

(continued on next page)

Public health campaigns in both the developing nations and in the developed countries like our own always carry the danger of infringing upon the human rights of persons to life, liberty, security, privacy, employment, health, education, and the right to establish a family, all so cherished among Americans. The 1997 book entitled "Human Rights and Public Health in the AIDS Pandemic," Oxford University Press, by Lawrence Gostin and Zita Lazzarini, two experts in health law (Professor Lazzarini has since joined the faculty at the University of Connecticut School of Medicine) is a compelling, and guiding dissertation on the preservation of those human rights. When it comes to preservation, our world is at risk and a multitude of scientific, economic, medical and social efforts by those of us in the healthier world are needed.

H. David Crombie, M.D.
Editor

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Neil J. Grey, M.D.
Medical Director

Michele R. Norbeck
Director

The AMA Is Organizing Medicine

Why should I join the AMA? What's in it for me? What has organized medicine done for me? If you do not know the answers to these questions now is the right time to ask because the AMA, more than any time in history, is defending, the way physicians practice medicine.

The AMA is making it "easier for doctors to care for patients" by *going to war* to stop the intrusions into the doctor-patient relationship. Intruders like the American Association of Health Plans (AAHP) which is determined to kill the "Patients Bill of Rights" legislation before Congress has any chance to weaken the incredible power that managed care has over physicians and patients. The daily hand-to hand combat between the AMA and the (AAHP) is only one battlefield.

The AMA is attacking managed care on many fronts and is not afraid to take insurers to court. It has joined a New York physician and his patient in a class action suit against the Metropolitan Life Insurance Company and UnitedHealthcare Corporation for using manufactured data to decrease physician reimbursement. The AMA has also joined with the physicians of Georgia in litigation against Aetna U.S. Healthcare for failure to make timely payments to physicians. The Pennsylvania Medical Society has received the support and assistance of the AMA in requesting the U.S. Dept of Justice to investigate the abusive control that Pennsylvania Blue Cross/Blue Shield has over physicians and patients. The types of managed care abuses that arise out of an HMO' s strong market share have become a priority target for assault by organized medicine. The AMA is involved in approximately twenty-two separate legal battles against insurers.

In addition, of course, your AMA gave considerable assistance to CSMS in our own struggle against Aetna's "all products clause." A number of AMA attorneys went with us to the Connecticut Attorney General's Office to help make our case.

The AMA is fighting for physicians in other arenas of organized medicine besides managed care: defending physicians against unfair fraud and abuse regulations that target physicians as petty thieves — preparing physicians for the 21st Century as leaders in internet healthcare information and the computerized medical record — lobbying for badly needed Medicare reform and restoring the funds deleted by the Balanced Budget Act of 1997— maintaining constant surveillance over the incompetence of HCFA before it puts more shackles on physicians— educating legislators and the public on the realities of patient safety issues — defending against the potential for physician abuse by the National Practitioner Data Bank— advocating coverage for the growing problem of the uninsured — and maintaining web sites for Model State Legislation, Principles of Managed Care, Rules of Contract Negotiation, etc. The AMA continues the long campaign in Washington for the Campbell Bill, that would allow doctors to negotiate with insurers over contract provisions that would mirror the safeguards of the "Patients' Bill of Rights". Moreover, the list goes on. The AMA is the united voice for all the attacks on the practice of medicine.

However, a united voice means that all doctors must get on board and do their part to make the AMA truly effective. Organized medicine needs everyone to share in the responsibility to change the AMA to fit the needs and purposes of physicians. It is the responsibility of physicians to direct the AMA to organize the house of medicine to reflect the goals, values, and aspirations of our profession.

To quote Dr. Anderson, the EVP of the AMA, "All of us in organized medicine are doing what we're doing — not for politics, not for the headlines, not for the greater glory of ourselves or our practices. No. We're striving to preserve the core values of high quality care and the role of physicians as strong and effective advocates for the needs of their patients." Join the ranks of the AMA and begin defending the way physicians practice medicine.

Donald D. Timmerman, M.D.
President

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REFLECTIONS ON MEDICINE

Facing a Boring Century?

ROBERT U. MASSEY, M.D.

JACQUES BARZUN'S's *From Dawn to Decadence*, is an 877-page tome covering, not quite superficially, the rise, flourishing, and decline of our Western culture from 1500 to the present. These centuries began, coincidentally, with an epidemic of a sexually transmitted disease, syphilis, and are ending with an epidemic of a sexually transmitted disease, AIDS. His judgment on our late 20th century is transparent from the title.

In these last years of the century, it is not surprising that thoughtful writers have seen, or thought they saw, the undeniable decline of Western culture. At least two other books published in the past five years have played variations on a similar theme: Gertrude Himmelfarb's *The De-Moralization of Society*, and Francis Fukuyama's *The Great Disruption*. The decline described by Himmelfarb is really from the 1960s to the present; she subtitles her book "From Victorian virtues to modern values," suggesting that morality based upon virtues has been replaced by values, a kind of weasel word denoting ethical relativism; right and wrong—all up to you and your "values."

Fukuyama's "great disruption" also begins in the 1960s, marked by the rise in crime, divorce, illegitimacy, and the decline of trust or "social capital." He points out that these indices of decline included the United States and Northern Europe, but were less marked in Italy and Spain, and virtually absent in Japan and Korea.

Long before the 1960s, writers in the years following World War I were almost unanimous in their opinion that the West was in decline. Recall T.S. Eliot's *The Waste Land*, Oswald Spengler's *Decline of the West*, just two of many. The optimism of the Gilded Age had been prelude to the erosion that began over a hundred years ago. G.K. Chesterton referred to the 1920s as a vulgar time. Can we imagine a more vulgar time than the past eight years? Has it been downhill only since the Gay Nineties? or since George the Fourth?

For Fukuyama, however, we are about to reach bottom, but in its need to reestablish social capital, defined as trust, society will soon reverse the centrifugal forces of the past 30 years. He concludes:

> There is nothing that guarantees that there will be upturns in the cycle. Our only reason for hope is the very powerful human capacities for reconstituting social order. On the success of this process of reconstitution depends the upward direction of the arrow of history.

To me he seems to lean on a weak reed. Himmelfarb closes with hopes for a stronger force in history:

> It is often said that there is in human beings an irrepressible need for spiritual and moral sustenance. Just as England experienced a resurgence of religion when it seemed most unlikely ..., so there emerged at the very height of the Enlightenment, the movement for "moral reformation." Today, confronted with an increasingly demoralized society, we may be ready for a new reformation, which will restore not so much Victorian values as a more abiding sense of moral and civic virtues.

Jacques Barzun with his impressive knowledge of history, especially cultural history, has a vaster, more integrated view of the West's slide into decadence. It was my good fortune to discover him 46 years ago in *Teacher in America*, and again in *The House of Intellect* in 1959. During my early deanship years, I literally carried in my pocket and would quote from *The American University* (1967) whenever the conversation drifted! The head of pathology declared it must be my guide to practical deaning!

Following the final two chapters of *From Dawn to Decadence*, "Embracing the Absurd" and "Demotic Life and Times," this 93-year-old scholar concludes with an imagined prologue to a work by some future historian who is looking back from, say, the year 2300 to perhaps 2100:

> The numerous regions of the Occident and America formed a loose confederation obeying rules from Brussels and Washington in concert; they were prosperous, law-abiding, overwhelming in offensive weaponry, and they had decided to let outside peoples and their factions eliminate one another until exhaustion introduced peaceableness into their plans.
>
> After a time ... the western mind was set upon by a blight: it was Boredom. The attack was so severe that the over-entertained people led by a handful of restless men and women from the upper orders, demanded Reform and finally imposed it in the usual way, by repeating one idea. ... These radicals had begun to study the old neglected literary and photographic texts....

Shades of Aldous Huxley's *Brave New World* or T.S. Eliot's "The Hollow Men"!

This is the way the world ends
This is the way the world ends
This is the way the world ends
Not with a bang but a whimper.

ROBERT U. MASSEY, M.D., Professor Emeritus, Division of Humanistic Studies, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington.

MEDICAL NEWS CAPSULES

This Month's Reading in Review

TIMOTHY B. NORBECK

A recent AMA report points out another compelling reason why all Americans must have health insurance coverage—America is becoming more ethnically diverse. "By 2010, the percentage of the population that is Caucasian will drop from 74% to 64%, Asians will make up 5%, African Americans 12%, and Hispanics approximately 15% of the American population. This projected change intensifies the need to address ethnic disparities in health status and increases the importance of achieving universal health insurance coverage. It also may have implications for medical education. While the U.S. population is becoming more ethnically diverse, the medical student population is becoming less ethnically diverse. In 1999, the number of African-American males entering medical school dropped 16% to 383, the lowest number in a decade. Moreover, in 1999, underrepresented minority applicants (black, Native American, Mexican-American/Chicano, and Mainland Puerto Rican) fell 7% to 4,176, the lowest since 1992. A less diverse medical student population is likely to have implications for the access to services for certain groups of under-served patients."

From an AMA CLRPD Report (June 2000)

It's a guy thing!—University of Houston football player Torrin Polk, on why he likes his coach: "He treats us like men. He lets us wear earrings."

The American Enterprise (July/August 2000)

The AMA led a successful fight for the Campbell bill (HR 1304) through the House of Representatives winning by a resounding 276–136 vote on June 30.... Connecticut Representatives Rosa DeLauro, Sam Gejdenson, and Jim Maloney voted for the measure.... This landmark legislation, which faces considerable opposition in the Senate, would give competing physicians an exemption from federal antitrust laws to allow them to collectively bargain with health plans.... Organizations opposing the AMA on this legislation were health plans, hospitals, nurses, employers, and some consumer groups.... The House victory represents a significant first step toward leveling the playing field for physicians—a remarkable achievement for the AMA, especially in view of the formidable opposition arrayed against it.

Modern Healthcare (3 July 2000)

"Experts fear that Alzheimer's disease is increasing so fast that more than 22 million people worldwide will be affected by 2025. The biggest risk for Alzheimer's is age: cases double with every five years of age between 65 and 85. Studies involving 4,000 patients worldwide are under way to see if the early use of Alzheimer's drugs or other substances like vitamin E can prevent, or at least slow, the progression to Alzheimer's.

New York Times (10 July 2000)

Join the crowd—According to a survey by Deloitte & Touche, nearly one-third of all U.S. hospitals say they have canceled a contract with an HMO.... The number jumps to 50% for the nation's largest hospitals—despite hospitals saying that HMOs account for 20% or more of their patients.... In a survey of the top administrators of about 1,000 U.S. hospitals, poor financial results were the not-so-surprising reason most cited for canceling a contract.... HMOs were also cited for poor overall cooperation with the hospitals.... Hospitals are striking back at managed care in part because they know patients are just as fed up as they are: "With all the noise by individual patients, the government, and employers, the hospitals' hand is strengthened."

Business Week (17 July 2000)

A survey by the Harvard School of Public Health and the Kaiser Family Foundation, published in the July/August edition of Health Affairs, found that health-care was second only to education in voters' rankings of important issues.... Education won out over health-care (including Medicare) by 29% to 28% in the poll conducted in December 1999.... Republicans considered education 24%, health-care 23%, and taxes 23% their three top priorities—Democrats signified health-care 33%, education 32%, and the economy/jobs 22% as their top issues–Independents mentioned education 32%, health-care 27%, and the economy/jobs 18%.

Modern Healthcare (3 July 2000)

Only in America—In March, a Milwaukee lawyer agreed to settle the slander lawsuit filed by her former client stemming from a statement she made on his behalf at his 1996 sentencing for armed robbery. To help explain his behavior to the judge, she said he was a heroin user, but her client said he was merely a cocaine addict and that to hear himself described as a heroin user gave him post-traumatic stress disorder resulting in lessened "self-confidence, self-esteem, and self-image."

News of the Weird (26 May 2000)

TIMOTHY B. NORBECK, Executive Director, Connecticut State Medical Society.

Letters to the Editor

Letters to the Editor are considered for publication (subject to editing and abridgement), provided that they are submitted in duplicate, signed by all authors, typewritten in double spacing, and do not exceed 1-1/2 pages of text (excluding references). They should not duplicate similar material being submitted or published elsewhere. Letters referring to a recent Journal article should be received within six weeks of the article's publication.

An Open Letter to the AMA

Letter to the Editor: The critical issues facing health care in this country present a set of paradoxes. The cost of American medicine dwarfs that of all other nations, but we still do not insure nearly 50,000,000 of our citizens. We have developed, or are in the process of developing cures for most of life's ills, but society is unwilling or unable to pay for these victories. Physicians have not dealt effectively with the efficient delivery of care, resulting in a takeover by the insurer, but the insurance industry has not proved to be better at the job.

It would seem an appropriate step for organized medicine to tackle these basic issues. But it has not! And it has paid a price. A recent article in the *Boston Globe* drew attention to the dilemma faced by the American Medical Association. At a time when organized representation for physicians is more important than ever before, the flagship organization of American physicians faces a static membership and declining financial resources.

The Globe pointed out that the AMA gained nearly 3,000 new members in 1999, its first increase in five years, but "about two-thirds of the nation's 800,000 doctors, residents, and medical students have not joined." The organization's membership revenue fell by $4.8 million last year. Expenses exceeded revenues by $9.2 million, nearly $3 million more than predicted.

The AMA, the article continued, was instituting a restructuring it hopes will show members "that their dues dollars are wisely and strategically spent on the programs most meaningful to them," according to a letter from its leadership.

It has begun to form a doctor's union, and to work with state medical associations to file class action suits against insurers who fail to pay claims promptly and completely.

Other initiatives proposed at the recent AMA national meeting included:

- Backing legislation that would prevent managed care organizations from giving doctors financial incentives to limit care, and to allow patients unrestricted access to any doctor in a health plan;
- Developing model legislation banning "all-products clauses" that require doctors to accept patients from all health plans offered by an insurer instead of allowing them to pick and choose the least restrictive.
- A publicity campaign urging Congress to amend antitrust laws to give doctors new rights to bargain collectively with health maintenance organizations.
- Programs to preserve the position of the AMA as a premier provider of medical information, given the rapid growth in competing health-news sites on the Internet. Proposed are means to protect the privacy of electronic health records and email between doctors and patients.

All of these issues are worthwhile. All of them would benefit patients. But none of them directly addresses the growing cost of health care, our society's unwillingness to pay the bill, or our failure to insure so many Americans. We need to do more. Who is more qualified than physicians to call on America to attend to its responsibility? Who can define the issues as well, and be better equipped to lead the way in grappling with the quality and the cost of health care?

If the American Medical Association is to expand its membership and influence the delivery of health care, it must *begin* its agenda with assured care for all Americans, delivered in a cost effective manner. To do so will at once capture the essential idealism that led most people to become physicians. It would place us in the position of advocating and implementing, not resisting, the changes needed for a response to the needs of our patients and fellow citizens.

We would need to state clearly, however, that achieving these goals would require an investment of more money than we now spend if the underserved are to be served, and if our creaky and inefficient delivery system is to be modernized. This might be said to be a risky political strategy. While we do not always welcome the opportunity, physicians have traditionally been risk takers. When the historian Barbara Tuchma, compared the mortality that different professions encountered from the bubonic plague in the 15th century, she found the highest death rate among physicians. Why? Because they took care of the patients.

Steven Wolfson, M.D.
New Haven

Putting a Human Face on Medical Error

I hope *The Hartford Courant*'s coverage of medical malpractice will not create a gulf of mistrust between patients and physicians, but rather will encourage both to enter in a responsible dialogue about this problem, which daily is becoming more complex [page 1, 30 April 2000 "Dangerous Doctors"; 1 May 2000, "White Coats, Dark Secrets"].

In our enthusiasm to embrace the promises of new medical discoveries, it is easy to overlook the fact that some of the new procedures and treatments that medical science makes available can cause unforeseen complications that have the potential to harm patients.

Often these complications are not because of medical negligence but because of the complexity of modern medicine. Though it may sound self-righteous, we physicians like to call them “maloccurrences” or honest medical errors. However, because human life is so precious and pain and suffering are so hard to accept, it is natural for patients to look for someone to blame. Even as a physician, that would be my first reaction if a member of my family were harmed by the medical system. However, the truth is that in medicine it has become increasingly easy to ascribe blame when none exists.

It is important to realize that the simplest symptom can be a sign of a mild illness or a life-threatening disease. A stomachache can be anything from a simple viral illness or case of the nerves to a heart attack or a ruptured aneurysm. Although these diseases are so different, any experienced physician knows that it is easy to make an honest error.

The results of that error can be inconsequential or disastrous, depending upon the problem. But the point is that in the majority of instances the physician acted to the best of his or her judgment and ability. Because uncertainty is so common in medicine, physicians rely as much on judgment as they do on science. If they didn’t, every patient who had a headache would get a CAT scan, every patient with a cough would get a chest x-ray, and every depressed patient would be considered suicidal until proved otherwise.

Of course, when patients are harmed because of true negligence, they should be compensated. But true negligence is much rarer than the news media sometimes suggest. Error in medicine has received wide coverage because of a report recently published by the Institute of Medicine. The report’s intent was not to point fingers at physicians but to look for ways to make our health system safer by having protocols and fail-safe mechanisms in place. This approach has been used by the airline industry and seems to have worked well there.

It makes sense to apply it to medicine because there are so many different steps and people involved in the care of a single patient that the possibility for honest mistakes is much greater than it was 20 years ago.

The title of the Institute of Medicine’s report is “To Err Is Human: Building A Safer Health Care System.” As the title indicates, the report’s authors tried to put a human face on medical error, not a punitive one. It is only in this spirit that a safer health-care system can be built.

Patients and physicians need to be partners, not adversaries, in this venture.

Edward J. Volpintesta, M.D.
Berlin
Reprinted from The Hartford Courant,
20 May 2000, A12

From the Executive Director's Office

COUNCIL MEETING

Thursday, 22 June 2000

Attendance

Present were: Drs. Ahamed, Aleali, Connair, Deren, Eslami, Franklin, Geary, Goodrich, Handelman, Herzog, Hollister, Katz, Keating, Maloney, Mansourian, Montegut, Sadowski, Scarpa, Sridhar, Tesoro, Van Linda, and Wetstone.

Also present were Mr. Norbeck, Ms. Lindquist, Mr. Brunell, Ms. Morelli, Ms. Norbeck, Ms. Schaffman, Ms. Graham (all CSMS staff), Mr. Thompson (FCMA staff), Mr. Fiorentino (HCMA and NHCMA staff), Ms. Darby, Ms. Dempsey (NLCMA, WCMA, MCMA, TCMA staff), Dr. Thompson, Mr. Lalime, Ms. Mastriano (CSMS-IPA), Dr. David Katz, President (NHCMA), Dr. Joseph Misiak, President (HCMA), and Dr. David Crombie, Editor, *Connecticut Medicine.*

Absent were Drs. Beck, Bigos, Brooks, Ducey, Galvin, Geist, Redmond, Schwartz, Sindwani, Sosa, Sureddi, Timmerman, Turner, and Wong.

Organizational Meeting

The organizational meeting of the Council for 2000–2001 was called to order in the absence of the President, Dr. Donald Timmerman, by the President-Elect, Dr. Alfred Herzog. He expressed the appreciation of the Council to Dr. Dickerman Hollister, Jr., for his efforts during his tenure as Chair of the Council. Dr. Hollister did not wish to be considered for reelection as Chair. Dr. Herzog welcomed the new and old councilors and asked them to introduce themselves. Dr. Herzog asked for nominations for Chair and Vice-Chair of the council for 2000–2001. It was VOTED to elect Michael M. Deren, M.D., New London, Chair, and Stanley J. Keating, M.D., Vice-Chair.

Reports

CSMS-IPA: Dr. Thompson commented on the IPA report submitted with the agenda. He noted that the report of Aetna/US Healthcare CEO's report to the House of Delegates included a major pronouncement about policy changes in a number of areas for Connecticut. Aetna has stated that they will make seven key changes in Connecticut by 1 January 2001. Dr. Thompson stated that he reviewed the Aetna proposals and noted and that the CSMS/IPA physicians have always had these fundamental rights. The goal of the IPA, which was established by CSMS, was to guarantee rights to physicians and has established standards which other managed care organization should try to develop. Some of the organizations are trying to meet these standards but have not reached the CSMS-IPA's goals as yet.

Mr. Lalime reported that they are researching various avenues to correct some of the problems arising in the credentialling process with PHS and have interjected themselves in the front-end process of obtaining information and applications to forward on to the Credentials Committee. He reported that the county elections to the IPA Board of Directors have been completed and, in conjunction with the CSMS nominees, a ballot will be mailed to the entire membership; final results will be brought to the Council at its next meeting. It was reported that the 1999 audit has been completed and was presented to the CSMS Fiscal Subcommittee. It was also reported that the IPA continues to work with PHS to make sure that physicians have input into processes, policy, etc., and bring the information back to the Board for their approval. CSMS-IPA now has a 10-year contract with PHS and there is some activity in exploring use of the internet. Following the presentation, there was a question and answer period.

Report of the Executive Director

Mr. Norbeck introduced a new member of the CSMS staff, Denise Graham, who joined the staff on 1 June 2000, and who will be the political affairs coordinator. He stated that it is imperative that CSMS and the physician community become more immersed in political affairs. She will be coordinating physician grass-roots fund raising for Connecticut House and Senate incumbents and worthy candidates. She will also work to boost M.D.PAC membership and related activities and assist Mag Morelli in her legislative efforts.

Mr. Norbeck reported on the following items:

1. Update on Norwood/Dingell patients' rights legislation: Tired of the Republican leadership stonewalling on the patients' rights legislation, Senator Ted Kennedy forced a showdown vote in the Senate. He forced the vote by attaching it to a bill authorizing $310 billion in defense spending, which was important to the Republicans. Senator Don Nickles, the chair of the House-Senate Conference Committee considering the Norwood/Dingell bill, has been the main deterrent to supporting the conference committee on passage of the bill.

   Seventy-two percent of Senator Nickles' own Oklahoma constituents support a patient being able to sue one's HMO and the Republican House of Representatives in Oklahoma voted 94–5 in favor of it. The state senate voted 44–2 in support of it, but Senator Nickles still adamantly opposes it. In the showdown Senate vote, Norwood/Dingell lost by only 51–48. Four Republicans joined the unified Democratic minority. The good news is that AMA is only one vote short of a 50–50 vote which Al Gore would break in the affirmative. He will never get a chance to break a 50–50 deadlock because if we get one more senator, Trent Lott, Republican majority leader would release Republicans on this issue, because they would never allow Gore to be a hero by breaking a tie. Therefore, if we can get one more vote, at least another six or seven Republicans would vote yes for 56 or 57 to 44 or 43 margin. AMA continues to put the pressure on uncommitted Republican Senators, looking for just one. The window of opportunity for passing patients' rights legislation is closing fast. If it isn't done by late July, it won't be done this year.

2. Representative Tom Campbell, the author of the Campbell bill HR 1304, has had 220 House sponsors for a number of weeks, more than enough to pass the House. Connecticut representatives Jim Maloney and Rosa DeLauro are on the bill as cosponsors.

   Speaker Dennis Hastert pulled the bill for consideration on May 25 which outraged Representative Campbell, the AMA, and anyone who understands how unlevel the playing field is for physicians. What outraged Representative Campbell the most and which actually made him consider leaving the Republican party and even Congress was that members of Congress told him individually that they didn't want to be forced to choose between two potential contributors, insurance and medicine. He was told that as long as they didn't have to vote on the bill, they had a chance of getting contributions from both. It is comments like these that help one understand why politicians got only a 15% favorable rating in a recent Fox News poll. Hastert insists that the bill will come up before the August recess and Representative Campbell will remain a member of the GOP.

3. On the political scene, Goldman Sachs CEO, Jon Corzine, defeated New Jersey Governor Jim Florio in the Democratic primary to succeed the retiring Senator Frank Lautenberg. Mr. Corzine spent 33 million dollars of his own money to win the seat. In fact, he spent so much money on TV advertising in New Jersey, which carried over in neighboring Pennsylvania, that some Pennsylvania voters told the Pennsylvania Democratic candidate that they were voting for Jon Corzine.

4. In a Supreme Court unanimous decision, it was declared that even though Illinois plaintiff patient Cynthia Herdrick won a malpractice suit against her doctor in state court, she had no right to sue her HMO in federal court. Her lawyers argued that under ERISA law, the HMO had a fiduciary responsibility to diagnose and treat her abdominal pain in a timely manner, but Justice David Souter opined that employer and HMO responsibilities under ERISA do not extend to medical decisions, not even if plans financially reward doctors for holding down costs. Most observers take that to mean that Congress must act for patient protection, and that, at the very least, the appeal process must be greatly strengthened.

5. Republicans and Democrats are jockeying with each other over a Medicare prescription drug benefits in order to woo senior voters, something both realize they need to win control of the House. He reviewed the prescription drug proposals of both the Republicans and Democrats. Republicans generally want more choices and options for beneficiaries, a larger role for private insurance companies, and a smaller role and lower costs for the government. Democrats, by contrast, want uniformity in premium and benefits. They say the Republican proposal will confuse seniors and lead to more HMO cherry-picking.

   Republican-controlled House Ways and Means committee approved a bill which would pay subsidies to insurers to offer prescription drug coverage to seniors with a premium of $37 a month or $444 a year. Co-pays and deductibles would vary with the different policies. Democrats claim insurers would move in and out of state just like the HMOs have and that it was a sham that would not guarantee the elderly would get drug coverage at an affordable price. Thirteen percent of Medicare beneficiaries have no drug costs, while 57% incur costs of less than $1,000 per year, and only 5% exceed costs of $5,000, but that 5% accounts for 29% of spending on drugs for Medicare recipients.

6. A new Kaiser Family Foundation poll says that while 54% of the public favor building on the current system of employer-based health insurance coverage, 39% support switching to a system allowing all individuals to buy their own health insurance with the help of a tax credit or other subsidy. This, of course, is what AMA and organized medicine favors and that 39% shows a dramatic increase in support of that concept.

7. Massachusetts is close to having enough signatures to place a single payer initiative before the voters this fall. Similar efforts have been undertaken in the states of Washington, Oregon, Arizona, Arkansas, Oklahoma, and Montana. HMOs and the business community will fight them all they way, but this war can only benefit physicians in the long run with the negative public relations HMOs will receive.

Report on AMA Annual Meeting

Dr. Sadowski, Chair of the CSMS AMA delegation, reported that Dr. Deren had been elected as Member at Large (A) on the governing body of the Organization of Medical Staff Sections (OMSS).

He reported that the various members of the delegation covered the reference committees that were held. He covered the reference committee on legislation. He stated that the AMA strongly supported reinstating Medicaid/ Medicare dual eligibility reimbursement. He thought that Governor Rowland should be made aware of this action. Another resolution passed was about legislative reform of HCFA. The AMA has sued HCFA for miscalculation of funds that were due to physicians on a national basis. There were a number of resolutions that had to do with the Institute of Medicine's report of all of the deaths that occur in the United States. Another resolution that received a great deal of discussion was one which had to do with access to reproductive health care. It appears that if there were only two hospitals in a community, and the Catholic hospital in that community bought out the other hospital, tubal ligations may become unavailable. This is not to be construed as including abortion, but only reproduction prevention service. A benign resolution was passed which suggested that other methods of providing this service be established in a community where the hospitals had been taken over by a Catholic institution.

Dr. Sadowski reported that he also attended the reference committee on membership. At the present time AMA membership consists of roughly of 28% of the total number of physicians in the United States. AMA is trying to come up with a plan whereby membership could be increased in the AMA through a federation with all the specialty sections, with the proposal that perhaps one fee would automatically enroll the individual as a member of the AMA.

Dr. Eslami reported that he attended the reference committee on constitution and bylaws. For the past few years there has been a great deal of discussion on the compensation of the Board of Trustees. The House of Delegates is the governing body of the AMA and the Board of Trustees is the interim governing body. The reference committee suggested two options in regard to the compensation of trustees, one was that the Board of Trustees would decide, and the second option was that the committee on compensation would decide and submit their recommendation to the House of Delegates for approval. The House of Delegates approved the second option.

The House approved a resolution that the AMA remind all state medical societies to review their state execution statutes to ensure that physician participation is not required. The House also approved a resolution that the AMA support the availability and use of all appropriate medical forensic techniques in the criminal justice system.

Dr. Hollister reported that he attended the reference committee dealing with technology. There was a discussion on reimbursement for telephone and electronic communications. The House adopted a resolution that physicians be compensated for their professional services, at a fair fee, for established patients with whom the physician has had previous face-to-face professional contact, whether the current consultation services are rendered by telephone, fax, electronic mail, or other form of communication. The resolution calls on the AMA to press HCFA and other payors to recognize supplemental communication, not as bundled services, or to have such services recognized as not covered by Medicare. There was a great deal of information on E/M coding but nothing has been resolved. It was stated that the House of Delegates does not negotiate with HCFA but they have to negotiate with a negotiating committee and nothing as yet has been resolved.

The House adopted a resolution dealing with bundling and downcoding of CPT codes. The resolution states that the AMA vigorously opposes the practice of unilateral, arbitrary downcoding and/or bundling by all payers and that the AMA develop a mechanism for assisting members in dealing with these problems with payers. The House adopted a resolution asking that the AMA formally reject the Milliman & Robertson guidelines as a clinical standard of care.

Dr. Myron Genel, who serves on the Council of Scientific Affairs, gave an update on the projects being undertaken by that group.

Dr. Scarpa reported that the House approved the addition of a lay member on the Board of Trustees. Also there was discussion about providing more seats in the House of Delegates for student and residents.

Dr. Scarpa also discussed the Maine program whereby citizens have developed a campaign against physician assisted suicide. It was VOTED to donate $1,000 to the Maine Medical Association for their use in their campaign against assisted suicide.

Dr. Ahamed reported that the Commission on Unity, of which CSMS delegate, Dr. Neil Brooks, is a member, is studying ways and means to unite all physicians in this country. He stated that all the splintered groups in medicine only serve to weaken the voice of medicine. This is true not only at the national level but at the state level.

Dr. Montegut mentioned some of the issues discussed by the Council on Medical Service on health-care reform and the issue of tax credits.

Additional information on the AMA meeting can be obtained on the Internet at <ama-assn.org>.

AMA Organized Medical Staff Section (OMSS)

Dr. Deren, who had been elected as a member-at-large on the governing body of the OMSS, thanked the Council and CSMS staff for their support. He stated that his agenda was to change the structure of the OMSS.

Legislative Update

Mag Morelli, Director of Government Relations, informed the Council that for those members who had not received the "End of Session Report" at the House of Delegates, copies were available. She reported on the special session that was held to pass a budget implementation bill for the Department of Human Services. There was a lot of controversy surrounding this bill including a section that would mandate strict generic substitution requirements for ConnPACE and Medicaid. The new law will require physicians to go beyond writing "brand name necessary" by requiring a written explanation as to why the brand name is medically necessary. In addition, the pharmacist will have to seek prior approval before filling that prescription. Dr. Parke appeared at a press conference and spoke against this aspect of the bill. Another portion of the bill will require the state to study the current Medicaid managed care system and look at alternatives including what is called "primary care case management." A conference is being proposed to look into just what "primary care case management" is, and if such a conference is held, CSMS should become involved in it. She discussed other issues and will keep the Council updated by fax memos. She stated that Rep. Bill Dyson, Chairman of the Appropriations Committee, is the state representative for the St. Ronan Street district. It was suggested that he be invited to a Council meeting to discuss some of the issues. It was urged that physicians get involved in fundraisers for those legislators who have been supportive of CSMS positions. Ms. Morelli reported that she has been working with the insurance industry as to what constitutes a claim and had a paper available for anyone who was interested in this issue.

County Reports

At the direction of the Council, county presidents were invited to attend the Council meeting and those in attendance reported on County activities.

Resolution Submitted by the Hartford County Medical Association

Hartford County Medical Association submitted a resolution concerning "Dangerous Doctors: Hospitals' Silence Helps Shield Problem Doctors," and "State Disciplinary Actions Since 1990," which were the names of editorials published by the *Hartford Courant*. These editorials portrayed the medical profession in an unbalanced and unfair manner by listing disciplinary actions taken against physicians by the Department of Public Health. It was stated that disciplinary action does not necessarily mean a patient was harmed or jeopardized by the physician named, and, therefore, an unfair measure of a physician's abilities. The resolution calls for CSMS to review existing state and federal regulations regarding peer review with the goal of educating physician members about peer review and collaboration with appropriate legislative and regulatory officials on the mechanisms by which information on physicians should be disseminated to improve patient safety. Following discussion, it was VOTED that the President and Chair of the Council appoint an Ad Hoc Committee to meet with the Commissioner of Public Health to discuss concerns raised in the Hartford County resolution and report back to the Council. The Chair requested that the Ad Hoc Committee also address in their discussion peer review, a support system for physicians, reporting in the National Practitioners' Data Bank, and the Department of Public Health's process for addressing physician discipline. The Chair mentioned that members of the Ad Hoc Committee should include a representative of Hartford County, CMIC, and the Physician Health Program. Names suggested were Drs. Sadowski, Herzog, Misiak, and Timmerman.

Committee on Medical Aspects of Sports

Dr. Marc Galloway submitted his resignation as Chair of the Committee on Medical Aspects of Sports, as he may be leaving the state. On recommendation of the Committee it was VOTED to appoint Dr. William B. Balcom of Norwich as Chair of subject committee.

Connecticut Council for Hospice and Palliative Care

A communication has been received from this group seeking a recommendation of a physician to serve on the Council's Board of Directors. It was VOTED to recommend Dr. Frank Scarpa to serve on this Council.

Minutes of Meeting

It was VOTED to accept, as information, the following minutes:

Committee on Alcohol and Drug Abuse dated 2 May 2000—In the report of the Committee on Alcohol and Drug Abuse was a recommendation that The Council approve the Consensus Statement of the "Physician Leadership on National Drug Policy." The Council VOTED to endorse the policy.

Dates of Future Meetings

Council Meeting—Wednesday, 23 August 2000

Semi-Annual Meeting—House of Delegates,
Wednesday, 15 November 2000

IN MEMORIAM

FERGUSON, JAMES F., Yale University School of Medicine, 1940. Prior to his retirement in 1978, Dr. Ferguson was a general practitioner and the medical examiner and a school doctor for the town of Wallingford. He was a member of the New Haven County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Ferguson died 3 July 2000 at the age of 85.

GLASER, WILLIAM, Tufts University School of Medicine, 1938. Dr. Glaser practiced pediatrics in New Haven, retiring in 1979. He was a member of the New Haven County Medical Association, the Connecticut State Medical Society where he served for 16 years on the Committee to Study Perinatal Morbidity and Mortality, and the American Medical Association. Dr. Glaser died 10 March 2000 at the age of 87.

JAIVEN, SAUL J., New York University School of Medicine, 1940. Dr. Jaiven practiced medicine in Stamford until his retirement in 1995. He was a member of the Fairfield County Medical Association and the Connecticut State Medical Society. Dr. Jaiven died 29 June 2000 at the age of 86.

STEEGE, THEODORE W., Yale University School of Medicine, 1938. Dr. Steege practiced cardiology in Hartford for over 35 years. He was associated with Hartford Hospital and in 1952 was named assistant medical director of the hospital. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society where he served on the Committee on the Medical Aspects of Sports during the early 1980s, and the American Medical Association. Dr. Steege died 9 July 2000 at the age of 89.

VERNON, SIDNEY, State University of New York, Health Science Center at Brooklyn, College of Medicine, 1930. Dr. Vernon retired from his practice of general surgery in Willimantic in 1992. He was a member of the Windham County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Vernon died 2 July 2000 at the age of 93.

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EXTERNAL INFUSION PUMP POLICY UPDATE

In the accompanying *Region A Supplier Manual* update is a revision of the External Infusion Pump Regional Medical Review Policy (RMRP). This policy revision incorporates new HCPCS codes that became effective January 1, 2000. In addition, the coverage criteria for liposomal amphotericin B were corrected to consider coverage in patients with impaired *renal* function rather than impaired *hepatic* function.

The RMRP also includes new coverage criteria for external insulin infusion pumps (HCPCS code E0784) as a result of a revised national coverage determination for §60-14 of the Coverage Issues Manual. As outlined in the RMRP, external insulin infusion pumps and supplies are covered for type 1 diabetics (only) who meet Medicare coverage criteria. An ICD-9-CM code specific to the 5th digit (eg, 250.11), describing the condition which necessitates the insulin pump, must be included on all claims for insulin pumps, insulin and/or supplies. Submission of a claim lacking a covered ICD-9-CM diagnosis code will result in a denial for medical necessity. Alternatively, failure to provide an ICD-9-CM diagnosis code on the claim will result in rejection of the claim for missing information.

Supplies for the insulin pump should be billed using codes A4221 and code A4232. Insulin for use in the pump is billed using code J1820. Codes A4230 (infusion set for external insulin pump, non needle cannula type) and A4231 (infusion set for external insulin pump, needle type) are not valid for claim submission to the DMERC because they are included in code A4221.

This policy revision is effective for dates of service on or after April 1, 2000. Please refer to the External Infusion Pump Regional Medical Review Policy in the *Region A Supplier Manual* for further details on the coverage and payment rules, coding guidelines and documentation requirements.

IMMUNOSUPPRESSIVE DRUG POLICY UPDATE

In the accompanying Region A DMERC Supplier Manual update is a revision of the Immunosuppressive Drugs Regional Medical Review Policy. This policy revision incorporates new HCPCS codes which are effective April 1, 2000. It also includes the details of the immunosuppressive drug benefit extension (see table below) found in the Balanced Budget Refinement Act of 1999. The benefit extension is effective for dates of service on or after 1 January 2000, and affects beneficiaries whose benefit would otherwise be expiring in the year 2000 through 2004.

Discharge Date After Covered Transplant Surgery	Drug Benefit Period
July 1, 1995—December 31, 1996	Limited to 36 months from date of discharge
January 1, 1997—December 31, 1997	Extended to 44 months from date of discharge
On or after January 1, 1998	At least 36 months from date of discharge, with an additional number of months to be determined

For patients discharged on or after January 1, 1998, the exact length of coverage will be determined at a later date by the Health Care Financing Administration (HCFA) in accordance with statutory guidelines. The new limits of coverage will be published by the DMERC when announced by HCFA.

Sirolimus (Rapamune), New Immunosuppressive Drug Coverage

It has been determined that sirolimus, trade name Rapamune, is eligible for Medicare reimbursement under the immunosuppressive drug benefit. Until a unique code is granted, this drug should be coded using HCPCS code J7599 (Immunosuppressive drug, not otherwise classified). When using this code, the name of the drug, dosage strength, number dispensed, and administration instructions must be included on the claim. All of the requirements for eligibility and length of the benefit apply as outlined in the medical policy for "Immunosuppressive Drugs" (Region A DMERC Supplier Manual). This decision is effective for claims with dates of service on or after September 15, 1999.

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Oral Anticancer Drugs - Busulfan and Temozolomide

Coverage of oral anticancer drugs has been expanded to include two additional drugs.

Coverage of oral busulfan (Myleran) is effective for dates of service on or after August 1, 1999. The NDC code for oral busulfan is:

00173-0713-25	Busulfan, 2 mg, oral

Coverage for oral temozolomide (Temodar) is effective for dates of service on or after November 1, 1999. The NDC codes for temozolomide are:

00085-1248-01	Temozolomide, 5 mg, oral
00085-1248-02	Temozolomide, 5 mg, oral
00085-1244-01	Temozolomide, 20 mg, oral
00085-1244-02	Temozolomide, 20 mg, oral
00085-1259-01	Temozolomide, 100 mg, oral
00085-1259-02	Temozolomide, 100 mg, oral
00085-1252-01	Temozolomide, 250 mg, oral
00085-1252-02	Temozolomide, 250 mg, oral

Until the DMERC publishes notification that the NDC codes may be used, claims for these two drugs must be submitted using code J8999 (Prescription drug, oral, chemotherapeutic, not otherwise specified). Include the name of the drug, the NDC code, and the number dispensed in the HA0 record of an electronic claim or attached to a hard copy claim.

Refer to the DMERC medical policy on Oral Anticancer Drugs for additional information on coverage, coding and documentation.

Oral Antiemetic Drugs

Effective for dates of service on or after October 1, 2000, claims for drugs which are addressed by the DMERC policy on Oral Antiemetic Drugs (Replacement for Intravenous Antiemetics) and which are dispensed by a physician must be submitted to the DMERC. Claims from physicians for these drugs with dates of service prior to October 1, 2000 must continue to be submitted to the local carrier, regardless of the date of claim submission. Physicians must obtain a supplier number from the National Supplier Clearinghouse before they can submit claims to the DMERC. Refer to the DMERC policy for information on coverage and payment rules, coding guidelines, and documentation requirements.

Levalbuterol (Xopenex)

Levalbuterol is the it-isomer of standard racemic albuterol, used as a beta-adrenergic bronchodilator administered through nebulizers. According to available literature, this form of albuterol has no clinically significant advantage over standard albuterol. Therefore, when billing for levalbuterol, use HCPCS codes J7618 or J7619, and payment will be based upon these codes' billing units - per 1 mg.

Equipment Not Used

Medicare will not pay for equipment that is not being used by the beneficiary. If it is not being used, it is considered to be not medically necessary. Suppliers should periodically verify with the beneficiaries if equipment is being used. In doing this, suppliers are verifying that claims being submitted to Medicare are not false claims. Claims submitted to Medicare for equipment not being used may be considered false claims. Keep in mind that Medicare payments end when the equipment is no longer being used, not just when it is picked up.

Consumer Concern or Complaint Form Regarding Group or Individual Health Insurance Including Managed Care Plans

To Be Submitted To
THE CONNECTICUT DEPARTMENT OF INSURANCE
CONSUMER AFFAIRS DIVISION
P.O. BOX 816
HARTFORD, CT 06142-0816

Phone: (860) 297-3900 or 1-800-203-3447 Fax: (860) 297-3872

The Consumer Affairs Division of the Department of Insurance receives, reviews, and responds to complaints and inquiries from state residents concerning insurance related problems. The staff examines each complaint to determine whether statutory requirements and contractual obligations within the commissioner's jurisdiction have been fulfilled. The Consumer Affairs Division coordinates the resources available within the Department to address consumer complaints.

In order for the Division to pursue a formal review of a concern or complaint, the consumer must submit a written explanation to the address listed above with as much pertinent detail as possible. Each written submission to the Consumer Affairs Division will be acknowledged.

Name of person filing the concern or complaint:

____

Address: ____

Phone where the Department can contact you: (_____) ____________________________

This concern or complaint concerns the following Insurance Company or Managed Care Plan: ____

Policy Number: ____

Name of Policyholder: ____

Name of Enrollee: ____

Name of Patient: ____

Patient is ___ **self** ___ **dependent** ___**other** (explain)______________________________

The following is a detailed description of the concern or complaint:

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CONNECTICUT MEDICINE (ISSN 0010-6178), published monthly at 160 St. Ronan Street, New Haven, CT 06511. Subscription rate included in membership dues. Non-members: $25.00 per year. Periodicals postage paid at New Haven, CT and at additional mailing offices. POSTMASTER: Send address changes to Connecticut Medicine, 160 St. Ronan Street, New Haven, CT 06511-2312.

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Vol. 64, No. 9 *The Journal of the Connecticut State Medical Society* September 2000
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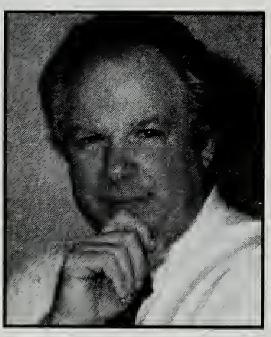

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Prostate Brachytherapy—The Community Hospital Experience

BERNARD PERCARPIO, M.D., PETER SANCHEZ, PAUL KRAUS, M.D.,
MARLENE CORUJO, M.D., PETER D'ADDARIO, M.D., AND JEFFREY WOLK, M.D.

ABSTRACT—One of the options for treating localized carcinoma of the prostate includes the implantation of radioactive seeds under ultrasound guidance (brachytherapy). A community hospital-based prostate brachytherapy program was started in 1992. The overall survival and disease-free survival figures for the initial 100 patients treated in this program seem comparable to patients treated by radical prostatectomy or brachytherapy in larger series. The main side effects of brachytherapy included nocturia, daytime urinary frequency, dysuria, and proctitis.

These side effects were transient and decreased to less than 10% by 12 to 24 months following implantation. Prostate brachytherapy can be effectively and safely provided in a community hospital setting.

Introduction

IN the past decade ultrasound directed transperineal implantation of radioactive seeds (brachytherapy) has emerged as a treatment option for patients with localized adenocarcinoma of the prostate. Several groups have now published 10-year survival figures[1,2] that are comparable to those achieved with radical prostatectomy.[3] In 1992 we started a prostate brachytherapy program at St. Mary's Hospital in Waterbury, Connecticut and have treated over 300 patients since then. This report summarizes the toxicity (both acute and long-term) and survival figures of the initial 100 patients treated in this program.

Materials and Methods

According to the 1998 version of the American Joint Committee on Cancer staging system, T1 prostate cancers are clinically inapparent tumors not palpable or visible by imaging. T2A tumors are confined within the prostate and involve one lobe. T2B tumors involve both lobes of the prostate. All patients treated in this study, had localized adenocarcinoma of the prostate (T1 or T2) without documented nodal or distant metastases.

No patients with disease beyond the prostate capsule (T3) were treated on this protocol. Pretreatment prostate-specific antigen (PSA) levels and Gleason Grades were documented for all patients. The metastatic evaluation included pelvic computed tomography (CT) scans and radionuclide bone scans. Some patients with poor prognostic signs, such as a marked PSA elevation or high Gleason Grade histology had laparoscopic pelvic lymph node sampling prior to treatment. iodine-125 seeds were used for all patients.[Nycomed—Amersham Co.]

Patients with cancer involving one area of the prostate, palpable disease less than 1.5 cm, and a Gleason Grade histology of six or less were treated with brachytherapy alone. Two to four weeks prior to brachytherapy, an ultrasound volume study was performed without anesthesia. Serial axial images were obtained of the prostate at 5 mm intervals from the base to the apex. The physics and dosimetry staff then produced isodose plans to cover the prostate volume with a prescribed dose of 16,000 cGy.

BERNARD PERCARPIO, M.D., Department of Radiation Oncology, St. Mary's Hospital, Waterbury; PETER SANCHEZ, Department of Radiation Oncology, St. Mary's Hospital, Waterbury; PAUL KRAUS, M.D., Urology Division, Department of Surgery, St. Mary's Hospital, Waterbury; MARLENE CORUJO, M.D., Department of Urology, Beth Israel Medical Center, New York; PETER D'ADDARIO, M.D., Urology Division, Department of Surgery, St. Mary's Hospital. Waterbury; JEFFREY WOLK, M.D., Urology Division, Department of Surgery, St. Mary's Hospital, Waterbury;

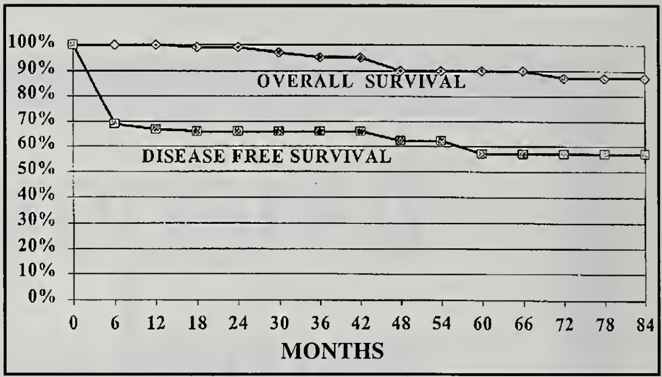
Those patients with biopsy proven bilateral involvement of the prostate, palpable disease greater than 1.5 cm or Gleason Grade 7 histology or greater, were given 4500 cGy in five weeks of external beam radiation to the prostate prior to brachytherapy. These patients were typically treated with a four-field technique with radiation portals measuring 9X9 cm. Brachytherapy was then performed two to four weeks after completion of external beam irradiation with a prescribed dose of brachytherapy of 12,000 cGy.

General anesthesia was used for the majority of patients. The bladder was distended with approximately 150–250 cc of water to aid in ultrasound imaging. After insertion of the transrectal ultrasound probe, care was taken to position the ultrasound images of the prostate similar to the pretreatment volume study. After the urologist and radiation oncologist agreed on the positioning, two Morganstern needles were placed through the perineal skin to stabilize the prostate. Preloaded 18-gauge needles were then used to implant the I-125 seeds in the prostate following the pretreatment plan. Axial and sagittal ultrasound images were used to verify the needle positions prior to implanting the seeds. Roentgenographic fluoroscopy was not used in positioning the needles. The procedure typically took one hour or less and the patients were observed in the hospital prior to discharge the next morning. Postimplant dosimetry was performed with stereoshift roentgenograms taken two to four weeks after the procedure. All patients have been followed with PSA levels at six month intervals for the initial three years following brachytherapy and yearly thereafter. Biochemical failure has been defined as not attaining a PSA nadir of one or less with three consecutive increases of PSA. Delayed toxicity was graded using the RTOG criteria.[4]

Table 1

Median age	71 (46–82)
Median PSA	12 (1.6–87)
T1	15%
T2A	41%
T2B	44%
Gleason 3–4	24%
Gleason 5–6	50%
Gleason 7	20%
Gleason 8–10	6%
Prior TURP	4%
Hormonal Rx	12%
Node dissection	26%
Brachytherapy	54%
XRT + brachytherapy	46%
Median volume	33 (16–69cc)
Median number seeds	77 (42–130)
Median activity	29 (21–54mCi)
Median follow-up	63 months (40–94)

Figure 1



Results

The first patient treated with brachytherapy in this program was implanted in July 1992. The 100th patient was treated in January 1997. The age range of these men is 46 to 82 with a median of 71. The pretreatment PSA range was 1.6 to 87 with a median PSA of 12.

Fifteen percent of patients had nonpalpable tumors (T1) with the remaining 85% having palpable cancers (T2A–41%, T2B–44%) (Table 1). The Gleason Grading is listed in Table 1. Four percent of the patients had a prior transurethral resection of the prostate (TURP). Twenty-six percent of patients underwent a laparoscopic lymph node sampling prior to treatment. Fifty-four percent of patients were treated with brachytherapy alone and 46% were treated with 4,500 cGy of external beam prostate irradiation followed by brachytherapy. Twelve percent of patients in this series were treated with androgen ablation hormonal therapy prior to brachytherapy (Table 1).

Figure 2

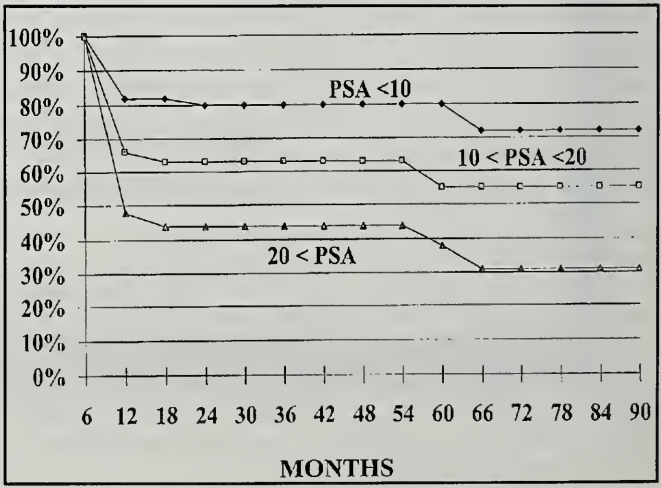


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Figure 3

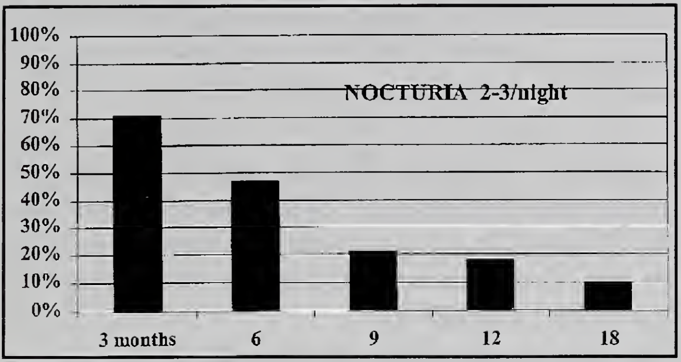
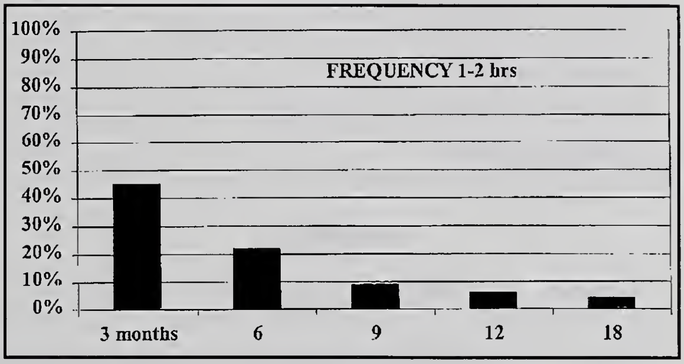


Figure 5



The prostate volumes range from 16cc to 69cc with median of 33cc. The median number of seeds implanted was 77 (range 42–130). The median total activity of the seeds implanted was 29 mCi (range 21 mCi–54 mCi). One hundred percent of patients have been followed with a median follow-up interval of 63 months (Table 1).

Overall actuarial survival of the entire group is 90% at five years (Fig. 1). Biochemical freedom from relapse is 57% at five-years (Fig. 1). When divided by PSA grouping, the five year biochemical freedom from relapse was 80% for patients with PSA less than 10, 55% for patients with PSA greater than 10 and less than 20, and 38% for patients with PSA greater than 20 (Fig. 2). Secondary malignancies developed in seven patients and included bladder cancer, melanoma, glioblastoma, rectal cancer, laryngeal cancer, and biliary cancer.

Acute toxicity from brachytherapy was chiefly frequency, nocturia, and urgency with some patients experiencing dysuria. Radiation Therapy Oncology Group Grade I nocturia is defined as voiding two to three time per night, usually not requiring therapy. This occurred in 70% of patients in the first three months following brachytherapy, but decreased to 10% by 18 months following brachytherapy (Fig. 3). Radiation Therapy Oncology Group Grade II nocturia is defined as four or more times per night and occurred in 11% of patients in the first three months following brachytherapy and decreased to 2% by 18 months following brachytherapy (Fig. 4). Radiation Therapy Oncology Group (RTOG) Grade II daytime frequency is defined as voiding every one to two hours during the day and usually was treated with alpha blockers. This occurred in 45% of patients in the initial three months following brachytherapy and decreased to 3% at 18 months (Fig. 5). Dysuria requiring medication (RTOG Grade II-III) was experienced by 15% of patients in the initial three months following brachytherapy and was decreased to 4% at 18 months (Fig. 6). Some less common urinary symptoms are listed in Table 2. Eight percent of patients experienced urinary obstruction requiring catheterization. The duration of catheterization was typically two to three weeks with no patient requiring catheterization beyond three months following brachy-therapy. One patient developed urinary stricture and three patients have required a postimplant TURP at six months following brachytherapy. Two patients developed urinary incontinence following brachytherapy and both of these had undergone TURP at some interval prior to brachy-therapy for benign prostatic hypertrophy (Table 2).

GI toxicity was less commonly experienced by these patients. Nine percent of patients developed radiation proctitis at six to 12 months following brachytherapy. This was typically manifested as frequent bowel movements with bleeding. All of these patients had radiation proctitis documented by endoscopy and were conservatively treated with observation, dietary modification, and occasionally steroid enemas. No patient with radiation proctitis required blood transfusion or surgery and all resolved spontaneously by 24 months (Table 2).

Figure 4

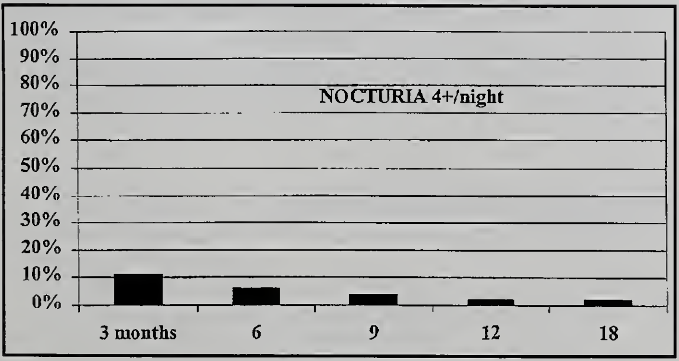


Figure 6

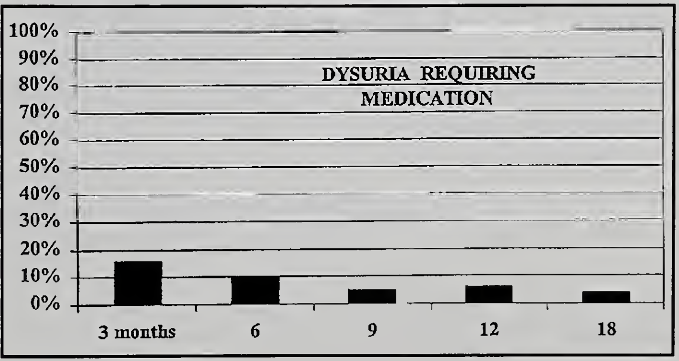


Table 2

Urinary obstruction requiring catheterization	8%
Urinary stricture	1%
Urinary incontinence (prior TURP)	2%
Radiation proctitis	9%

Discussion

Although the retropubic implantation of radioactive iodine-125 seeds was used in the 1970s, it was later abandoned because of the imprecision of placing the seeds accurately within the prostate. In 1983, Holm first prescribed brachytherapy for prostate cancer using transrectal ultrasound for guidance.[5] This technique was later developed and popularized by Blasko in Seattle.[6] This group has recently reported 10-year survival figures for patients treated with this technique.[1] The overall survival figure of 85% is similar to the 90% reported in this series. When analyzed by pretreatment PSA levels, the Seattle group reported a five-year disease-free survival figure of 80% for patients with a PSA level of less than 10. This current series also reports 80% disease-free survival at five years for a similar group. Patients with a PSA level greater than 10 prior to treatment, experienced a five-year disease-free survival rate of 60% in the Seattle series compared to 55% in this report. Although no randomized prospective trials have been reported comparing brachytherapy with radical prostatectomy, the overall relapse free and survival figures seem comparable when patients were grouped according to PSA level and Gleason Grade.[1]

One of the purported advantages of brachytherapy over radical prostatectomy is decreased morbidity. With a one hour, minimally invasive procedure, and no significant recovery time, brachytherapy has its obvious advantages over surgery. Urinary incontinence may be experienced in 5% to 20% of patients treated with radical prostatectomy while this is exceptionally rare with brachytherapy. Indeed, only patients with a TURP prior to brachytherapy experience incontinence.[7] Such patients are now discouraged from treatment with brachytherapy.

Increased day-time urinary frequency and nocturia are common, but transient, side effects from brachytherapy. Others have reported these symptoms diminishing by six months after implantation.[8,9] The current study supports this with a marked decrease in frequency by six months following the procedure.

Urinary obstruction requiring catheterization and dysuria are less common symptoms following brachytherapy.[9] Similar to reported series, these symptoms diminished rapidly with time in patients in this study.

The rectal symptoms following brachytherapy were manifested as radiation proctitis occurring at six to 12 months after implantation.[10] Symptoms of proctitis have been frequent bowel movements with bleeding and have resolved spontaneously in all patients with observation or conservative management.

In summary, brachytherapy for localized carcinoma of the prostate appears to be a reasonable alternative to radical prostatectomy for selected patients. Five-year overall survival and disease-free survival figures seem comparable to surgery. The morbidity of brachytherapy includes transient urinary and rectal symptoms which are self limited. Patients with a history of prior transurethral resection of the prostate should not be considered for brachytherapy.

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Deliveries by Family Physicians in Connecticut: Results of a Practice-Based Research Network

KEITH SINUSAS, M.D.

ABSTRACT—*Objective:* To obtain descriptive data on deliveries performed by family physicians in Connecticut during one year. *Design:* All family physicians in Connecticut who provided obstetric care were personally contacted to enlist their participation in a research network. All such physicians agreed to participate and were instructed to mail a 15-item delivery data card to the author following each delivery that they participated in during calendar year 1996. *Main Outcome Measures:* Method of delivery, use of obstetric intervention (eg, oxytocin administration, episiotomy, and epidural anesthesia), and obstetric consultation rates. *Results:* Thirty-two physicians, representing 9.0% of the family practice workforce in Connecticut, provided obstetric care. These 32 physicians, who practice in only seven of the 31 acute care hospitals in the state, delivered 478 neonates during 1996. Most deliveries were by the spontaneous vaginal route, with forceps and vacuum used in 2.1% and 5.0% of vaginal deliveries, respectively. The primary cesarean section rate of these family physicians was low at 5.6% compared with a statewide rate for all providers (physicians and certified nurse midwives) of 12.4% (odds ratio, 0.42; 95% confidence interval, 0.28–0.63). Rates of certain obstetric interventions, such as oxytocin administration, epidural anesthesia, and episiotomy, varied greatly by hospital. Obstetric consultation rates also varied greatly among hospitals, ranging from 12.8% to 49.6%. *Conclusions:* Family physician involvement in maternity care in Connecticut is low. This study confirms a low rate of instrument-assisted and cesarean delivery in births attended by family physicians. Use of obstetric interventions and obstetric consultation varies greatly within the state.

OBSTETRIC care is an important part of the care provided by family physicians. Previous studies have looked at the style of practice of family physicians who provide maternity care. Some of these studies have been set in a single practice,[1] a single rural hospital,[2] a single teaching hospital,[3] a prepaid health maintenance organization,[4] a cross section of hospitals in various states,[5] and the military.[6] To date, no study has looked at the delivery room activities of all family physicians in a single state. This report is a descriptive study of the deliveries performed by family physicians in Connecticut during 1996. It is the result of the cooperative efforts of a research network, which included all family physicians in Connecticut who provide maternity care to their patients.

Methods

The maternity units of all acute care hospitals in Connecticut were contacted to determine if there were family physicians on staff who had privileges in obstetrics. Each of the physicians identified was then personally contacted to see if he or she would be willing to participate in a research network that sought to gather data on their deliveries for the 1996 calendar year. All agreed to participate.

A 15-item delivery data card was prepared, which could be completed by each physician at the end of a delivery.

KEITH SINUSAS, M.D., Middlesex Hospital Family Practice Residency, Middletown, Connecticut.Reprints: Keith Sinusas, MD, Middlesex Hospital Family Practice Residency, 90 S. Main St, Middletown, CT 06457.

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Table 1.—Patient Population

Demographic	State Total	Hospital A	Hospital B	Hospital C
No. of Patients	478	171	117	156
Age, y				
Mean	25.8	25.0	28.2	25.6
Range	14–44	14–44	15–42	15–42
Race, No. (%)				
White	337 (70.5)	112 (65.5)	44 (37.6)	154 (98.7)
Black	62 (13.0)	34 (19.9)	25 (21.4)	0
Hispanic	67 (14.0)	20 (11.7)	44 (37.6)	0
Asian	8 (1.7)	3 (1.8)	2 (1.7)	2 (1.3)
Other/not specified	4 (0.8)	2 (1.2)	2 (1.7)	0
Parity, No. (%)				
Primiparous	192 (40.2)	85 (49.7)	41 (35.0)	51 (32.7)
Multiparous	281 (58.8)	86 (50.3)	76 (65.0)	100 (64.1)
Not specified	5 (1.0)	0	0	5 (3.2)
Gestational age, wk				
Mean	39.3	39.5	39.2	39.1
Median	40	40	40	40
Range	21.0–42.5	33.5–42.5	21.0–42.0	34.5–41.5

Data were compiled only on liveborn neonates delivered during the study period. The variables included basic demographics about the patient, identification of the delivery type, use of technology such as electronic fetal monitoring, use of interventions such as epidural anesthesia, oxytocin, and episiotomy, and use of consultation from obstetric colleagues. Apgar scores were included as a limited way to obtain data on fetal outcomes.

The delivery data card was designed so that it could be folded over and taped closed for mailing. The cards were stamped and addressed for convenient mailing by each participating physician. Once the cards were received, subsequent data entry and analysis were performed. It became clear that the bulk of the deliveries by family physicians in Connecticut were performed in three hospitals. Accordingly, a careful delivery log review was performed at each of these institutions, and several new cases were discovered. These were all included in the final statistics.

All data were entered into a database program (Microsoft Access; Microsoft, Redmond, Wash) and then analyzed. Odds ratios for cesarean section rates were computed using a public domain statistical software package (Epi Info, Centers for Disease Control and Prevention, Atlanta, Georgia).

Since most deliveries by family physicians in Connecticut are performed at three institutions, the data were analyzed as a statewide aggregate and in three subsets (hospitals A, B, and C). Hospital A is a community hospital with a university-affiliated family practice residency, and hospital B is a community hospital with a university-administered family practice residency. Delivery data at both these hospitals reflect maternity care provided by private family physicians and family practice

Table 2.—Delivery Type

Delivery Typ	State Total	Hospital A	Hospital B	Hospital C
All deliveries	478 (100.0)	171 (100.0)	117 (100.0)	156 (100.0)
Vaginal deliveries	442 (92.5)	157 (91.8)	107 (91.5)	149 (95.5)
Spontaneous vaginal	400 (83.7)	149 (87.1)	95 (81.2)	127 (81.4)
VBAC*	8 (1.7)	2 (1.2)	3 (2.6)	3 (1.9)
Vacuum assisted	14–44	14–44	15–42	15–42
Forceps	10 (2.1)	0	6 (5.1)	4 (2.6)
Cesarean deliveries	36 (7.5)	14 (8.2)	10 (8.6)	7 (4.5)
Primary	27 (5.6)	13 (7.6)	7 (6.0)	3 (1.9)
Repeat	9 (1.9)	1 (0.6)	3 (2.6)	4 (2.6)

Table 3.—Interventions and Procedures

	No. (%)			
Interventions and Procedures	**State Total**	**Hospital A**	**Hospital B**	**Hospital C**
All deliveries	478 (100.0)	171 (100.0)	117 (100.0)	156 (100.0)
Electronic fetal monitoring	461 (96.5)	168 (98.2)	111 (94.9)	149 (95.5)
Continuous	401 (88.9)	148 (86.5)	106 (90.6)	130 (83.3)
Intermittent	60 (12.6)	20 (11.7)	5 (4.3)	19 (12.2)
Oxytocin	201 (42.0)	50 (86.5)	58 (49.6)	79 (50.5)
Augmentation	111 (23.2)	22 (86.5)	35 (29.9)	46 (29.5)
Induction	90 (18.8)	28 (86.5)	23 (19.7)	33 (21.1)
Epidural anesthesia/vaginal delivery	95/442 (21.5)	29/157 (18.5)	48/107 (44.9)	5/149 (3.4)
Epistotomy/vaginal delivery`	196/442 (44.3)	42/147 (26.8)	39/107 (36.4)	104/149 (69.8)

resident deliveries that are directly supervised by the family physician faculty of each institution. If a resident performed a delivery, it was ascribed to the attending family physician in attendance at the delivery. Hospital C is a rural community hospital that has no trainees, and the deliveries reported are all by practicing family physicians. The remainder of the family physician deliveries in Connecticut are not considered separately but are included in the statewide aggregate figures.

Results

There are 31 acute care hospitals in Connecticut. Seven of the 31 hospitals had family physicians on staff who delivered babies during calendar year 1996. Thirty-two family physicians who provided this service to their patients were identified at these institutions. This represents 9.0% of the 354 family physicians known to practice in the state (Connecticut Academy of Family Physicians, Bloomfield, 1996 Membership Database). Family practice residents are not included in this figure of 32 physicians. Any delivery by a family practice resident is ascribed to the attending family physician present at the delivery. Family practice resident deliveries supervised by obstetricians are not included.

Data delivery cards were completed on 478 deliveries by this group of 32 family physicians during the study period. The number of deliveries performed per family physician during this one-year period ranged from one to 48, with a mean of 13.1 and a median of 13 deliveries per year.

The demographics of the patient population are detailed in Table 1. The mean age of the patients was 25.8 years, which did not vary much among the three principal hospitals. The racial mix, however, did vary, with hospital C, located in a rural setting, serving a primarily white population (98.7%) and hospital B, an inner-city institution, serving a primarily nonwhite population (37.6% Hispanic and 21.4% African American). Most women were multiparous, but this too varied somewhat among the hospitals (Table 1).

A total of 442 (92.5%) of the 478 deliveries reported by the participating family physicians were vaginal. The primary cesarean delivery rate of the study population was 5.6%, with rates in hospitals A, B, and C being 7.6%, 6.0%, and 1.9%, respectively. There were few instrument-assisted deliveries reported, with 24 patients (5.0%) being delivered of neonates by vacuum assist and 10 patients (2.1%) being delivered of neonates with the aid of forceps. Further details on the mode of delivery can be found in Table 2.

The use of various obstetric technologies and interventions was examined in this study. Electronic fetal monitoring was used in 461 (96.4%) of the 478 labors and was consistently high in all three principal institutions. Epidural anesthesia was used for pain management in approximately one fifth of the labors reported. There was consid-

Table 4.—Obstetric Consultation

	No. (%)			
Consultations	**State Total**	**Hospital A**	**Hospital B**	**Hospital C**
All deliveries	478 (100.0)	171 (100.0)	117 (100.0)	156 (100.0)
Obstetric consultation for any reason	173 (36.2)	77 (45.0)	58 (49.6)	20 (12.8)
Obstetric consultation/oxytocin use	121/201 (60.2)	50/50 (100.0)	50/58 (86.2)	11/79 (13.9)

erable variation among hospitals, with reported rates in hospitals A, B, and C of 18.5%, 44.9%, and 3.4%, respectively. Oxytocin was used to either induce or augment labor in 201 (42.0%) of 478 women, with hospital A reporting the lowest use rate at 29.2%. Episiotomy was performed on 196 (44.3%) of 442 patients who delivered vaginally. Surprisingly, one institution, hospital C, had a high rate of episiotomy use, with more than two thirds of the women undergoing this procedure during delivery. Further detail on the use of these technologies and procedures can be found in Table 3.

Consultation from a specialist in obstetrics and gynecology was obtained intrapartum in more than one third of labors (36.2%). This varied from a low consultation rate of 12.8% in hospital C, the rural hospital, to a high of 49.6% in hospital B, the inner-city facility. Mandatory consultations are required in certain institutions. For instance, in hospital A, obstetric consultation is required for use of oxytocin, and therefore all 50 women who had oxytocin administered during labor at that hospital had an obstetrician involved in their care. On the other hand, in hospital C, where family physicians are not restricted in their use of oxytocin, only 11 (13.9%) of 79 women had an obstetric consultation while receiving oxytocin. Table 4 shows the data on consultations in detail.

Neonatal outcomes were not examined in detail, except to report the Apgar scores at one and five minutes after delivery. The only perinatal death occurred in a premature labor at 21 weeks' gestation. Apgar scores of six or less at five minutes occurred in seven (1.5%) of 478 liveborn neonates, and scores of seven or less occurred in 13 (2.7%) of 478. Scores greater than or equal to eight at five minutes, generally considered a favorable outcome, were noted in 97.3% of liveborn neonates.

Comment

Family physician involvement in maternity care in Connecticut is low, with only 9.0% of active practitioners including it in their practice. This is well below the national figure of 25.2%, according to 1996 data available from the American Academy of Family Physicians (Hospital Privileges Survey, May 1996). Possible explanations for this low number may be similar to those quoted in previous studies, such as lifestyle issues, malpractice premiums, and competition with or restriction of privileges by obstetrician-gynecologists.[7] In Connecticut it is possible that the relationship with obstetrician-gynecologists is a factor. Being a small state, there is ready access to obstetrician-gynecologists in every county, with practitioners on the staff of every hospital. This is unlike some Midwestern and Western states, which may have no obstetrician-gynecologists for many miles. Despite this potential barrier of competition, family practice maternity care remains viable, with one of our participating physicians having attended 48 births during 1996.

The cesarean section rate among family physicians has been reportedly low in previous studies. In 1995, Hueston[8] reported a nonelective cesarean section rate of 9% among family physicians compared with 16% among obstetricians in the same institutions. The present study confirms a low rate among Connecticut family physicians, with a primary cesarean section rate of 5.6%. When repeat cesarean sections are included (most of those from failed vaginal births after cesareans), the Connecticut family physician total is only 7.5%. Statewide figures in Connecticut are available for fiscal year 1996 (1 October 1995 through 30 September 1996). The state cesarean birth rate for all providers was 19.5%, with a primary cesarean section rate of 12.4%.[9] Statistical analysis of the primary cesarean birth rate of family physicians vs all providers reveals an odds ratio of 0.42 (95% confidence interval, 0.28–0.63).

The number of vacuum-assisted and forceps deliveries was low in this study, only 7.1% of vaginal deliveries. Wanderer and Suyehira[4] reported use of forceps or vacuum by family physicians in 30 (16.8%) of 179 deliveries. National data from 1987 show that 15.5% of women had instrument-assisted deliveries.[10]

Electronic fetal monitoring use was high in this population (96.4%), despite evidence in large randomized clinical trials showing no benefit to its use in low-risk patients.[11,12] Decreased electronic fetal monitor use has been championed by Smith et al[13] in their important article on obstetric care, but regretfully it has been hard for physicians to buck the tide of technology in this area.

There was considerable variability in the state with regard to the use of certain interventions and procedures. Use of oxytocin for augmentation ranged from 12.9% in hospital A to 29.9% in hospital B. This may be explained by the restrictive privileges in hospital A, where all family physicians are required to have an obstetric consultation before administering oxytocin to their patients. Perhaps the family physicians in hospital A held off on the use of oxytocin for their patients in an attempt to avoid what they believed were unnecessary consultations.

Epidural anesthesia use was similarly disparate among institutions, with family physicians in hospital B using it in 44.9% of patients and those in hospital C using it in only 3.4%. More detailed analysis of hospital C shows that, although it had the lowest rate of epidural anesthesia use, it also had the highest rate of oxytocin use. This interesting combination of aggressive use of oxytocin and limited use of epidural anesthesia in hospital C may account for their low rate of primary cesarean birth (1.9%). This would be an interesting combination to look for in other institutions around the country to see if this pattern is reproduced.

The use of episiotomy in Connecticut also varies widely, ranging from 26.8% in hospital A to 69.8% in hospital C. In the United States, episiotomy is used in more than half of all vaginal births,[10] whereas in Canada a lower overall rate of 37.7% is found.[14] A future goal of the research network might be to determine if educational interventions could change the behavior of physicians in hospital C with regard to episiotomy.

A major function of all family physicians is the coordination of care, which includes the appropriate use of consultants.[15] In this study, obstetric consultation rates varied from 12.8% in hospital C to 49.6% in hospital B. The family practice literature likewise shows variation in consultation rates. Hueston[16] reported a combined consultation rate of 15.4% in five different medical centers during a two-year period, and Craig et al[3] reported a 32% consultation rate during one year in a university-based family practice.

The major driving force for this variation is the restrictive privilege situation that exists in many Connecticut hospitals with regard to maternity care by family physicians. It is highly unlikely that differences in the risk status between patients in hospitals B and C could account for the wide difference in consultation rates. Privileging may well be a driving force. This privileging issue may further account for the fact that only 9.0% of family physicians in Connecticut deliver neonates.

In a national survey of family physicians, Wadland et al[17] found that the scope of obstetric privileges varies by region. Nationally, approximately half of all family physicians who provide maternity care have required consultations for certain pregnancy-related conditions or procedures. The greatest freedom is found in the mountain plains states, where 60% of family physicians have unrestricted privileges, and the least freedom is in the East, where only 29% are unhindered by required consultations. The American Academy of Family Physicians must continue to support the efforts of its membership in obtaining and maintaining appropriate hospital privileges. Future research might examine perinatal outcomes in a randomized trial of mandatory *vs* voluntary obstetric consultation.

The neonatal outcomes in the study were good, but the data were very limited, since only Apgar scores were reported. Future investigations should include more information to determine the status of the newborn. Variables such as birth weight, cord pH values, need for resuscitation, need for prolonged hospital stay, and transfer to a neonatal intensive care facility might better define the health of the neonate.

Another weakness of the study was the inability to verify the information submitted on all of the obstetric data cards. The information is all self-reported by the delivering physician, with review of the labor and delivery log at only three of the institutions. Some physicians may have failed to complete cards following a delivery, leaving some potential gaps in the information. However, this technique of self-reporting has been used successfully by other research networks,[18,19] and one should presume that the data reported by the participating family physicians are an accurate reflection of maternity care provided in Connecticut.

In summary, family physicians in Connecticut are important providers of maternity care to their patients. Despite limitations on their obstetric activities through restrictive hospital privileges, they continue to maintain their enthusiasm about participating in this important aspect of the family cycle. Some have called family physicians who deliver babies an "endangered species,"[20] but to paraphrase Mark Twain, a famous Connecticut resident, reports of our death have been greatly exaggerated.[21]

Accepted for publication 28 January 2000.

I thank John Cordes, M.D., for his assistance in preparing the delivery data for his institution and Len Averill, M.D., for facilitating access to the delivery log in his obstetric unit. I must also acknowledge all the members of the Connecticut Family Practice Obstetrics research network for their invaluable contributions to this project: Thomas Agresta, M.D., Sarah Aronson, M.D., Kevin Boucher, D.O., David Boxwell, M.D., Arthur Catsam, M.D., Timothy Cooper, M.D., John Cordes, M.D., Joseph Creme, M.D., Robert Cushman, M.D., Margerite Davis, M.D., Mary Guerrera, M.D., Susan Hasti, M.D., Nancy Hurlburt, M.D., Michael Kazakoff, M.D., Patricia Lampugnale, D.O., J. Carey LaPorte, M.D., Charlene Li, M.D., Thomas McLarney, M.D., Mary Helen Morrow, M.D., Andrea Needleman, M.D., James Nicholson, M.D., Peter Rabinowitz, M.D., Wendolyn Reymond, M.D., Alberto Rodriguez, M.D., Gregory Shields, M.D., Keith Sinusas, M.D., Gerald Sullivan, M.D., Jane Walker, M.D., Dael Waxman, M.D., Olivia Wright, M.D., Cathy Zack, M.D., and Roy Zagieboylo, M.D.

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Pharmacokinetic Implications of HMG CoA Reductase Inhibitors

C. MICHAEL WHITE, Pharm.D.

Introduction

CURRENTLY, 6 HMG CoA reductase inhibitors (HMG CoA RIs) are FDA approved for the treatment of hyperlipidemia: lovastatin (Mevacor®), pravastatin (Pravachol®), simvastatin (Zocor®), fluvastatin (Lescol®), atorvastatin (Lipitor®), and cerivastatin (Baycol®). A number of pharmacokinetic differences exist between the HMG CoA RIs, most without proven clinical importance.[1] Important differences include: the effect of food on HMG CoA RI absorption, the effects of drugs on HMG CoA RI metabolism, and the effect of HMG CoA RIs on the metabolism of other drugs.[1,2] Knowledge of the differences can improve drug selection and patient counseling. This article will delineate the differences between the HMG CoA RIs for each of the important factors.

Absorption

When lovastatin is dosed with low fiber meals the systemic bioavailability is increased approximately 50%.[1] High fiber meals decrease the absorption of lovastatin and can diminish its hyperlipidemic efficacy.[3,4] All of the other HMG CoA RIs can be taken without regard to food.[1,5]

Drugs that Enhance HMG CoA RIs Concentrations

CYP3A4 interactions.—All HMG CoA RIs except pravastatin and fluvastatin are metabolized primarily by the CYP3A4 enzyme system.[2] Several drug interaction studies where HMG CoA RIs are combined with inhibitors of the CYP 3A4 have been performed (Table 1).[6–15] The area under the curve (AUC), which provides information on the total systemic exposure to HMG CoA reductase inhibition, is the most important pharmacokinetic variable for this kind of study.[2] In these studies, significant accumulation of atorvastatin, simvastatin, and lovastatin have been demonstrated. Cerivastatin does not accumulate when given concurrently with CYP 3A4 inhibitors, presumably due to its CYP2C8 shunt mechanism.[2] The 38 cases of rhabdomyolysis reported in the literature have only been with simvastatin and lovastatin and most have resulted in acute renal failure.[2]

Two of the studies have shown a significant correlation between the concentrations of the inhibitors of the CYP3A4 and the HMG CoA RIs [$r^2=0.83$, $P=0.002$, for diltiazem and lovastatin and $r^2=0.95$, $P=0.014$ for cyclosporin trough and simvastatin].[11,13] This is important because it shows that as the doses (and the subsequent concentrations) of the CYP3A4 inhibitors are increased, the resultant increases in the concentrations of CYP3A4 metabolized drugs are also increased.

CYP3A4 inhibitors found to cause rhabdomyolysis or to substantially increase concentrations of HMG CoA RIs are presented in Table 2.[2,5] Known CYP3A4 inhibitors with the potential to increase HMG CoA RI concentrations and/or induce rhabdomyolysis are also given in Table 2.[2,5]

HMG CoA RIs that Impact Other Drug's Concentrations

CYP2C9 interactions.—Fluvastatin is eliminated by, and an inhibitor of, the CYP 2C9 enzyme system.[1,5,16] It has been shown to significantly increase the AUC of diclofenac (Voltaren®) proving its CYP2C9 inhibition mechanism.[1] The s-isomer of warfarin is eliminated through the CYP 2C9 and the combination of warfarin and

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C. MICHAEL WHITE, PHARM.D.,Assistant Professor of Clinical Pharmacy, University of Connecticut, School of Pharmacy, Storrs, and Co-Director of Arrhythmia and Cardiovascular Pharmacology Research, Drug Information Center, Hartford Hospital, Hartford.

This series on Drug Information Updates from Hartford Hospital are provided by the Drug Information Center, Department of Pharmacy Services, Hartford Hospital. Editors: Robert A. Quercia, M.S., R.Ph., and Moses Sing Sum Chow, Pharm.D.,Editor: Robert A. Quercia, M.S., R.Ph., Moses Sing Sum Chow, Pharm.D. Editorial Board: D. Drezner, M.D., G. Gousse, M.S., R. Quintiliani, M.D., J. Laut, M.D.

Table 1.—Increases In HMG CoA RI Area Under the Curve (AUC) When Given with a CYP3A4 Inhibitor[6–15]

HMG CoA RI	CYP 3A4 Inhibitor	AUC *vs* Placebo/Historical Control
Atorvastatin 40 mg[6]	Itraconazole 200 mg	3.2 fold
Lovastatin 40 mg[7]	Itraconazole 200 mg	20.7 fold
Simvastatin 40 mg[8]	Itraconazole 200 mg	18.6 fold
Pravastatin 40 mg[8]	Itraconazole 200 mg	NS
Simvastatin 40 mg[9]	Erythromycin 1.5g	3.9 fold
Cerivastatin 0.3 mg[10]	Erythromycin 1.5g	NS
Simvastatin 40 mg[9]	Verapamil 240 mg	2.8 fold
Lovastatin 20 mg[11]	Diltiazem 240 mg	3.6 fold
Pravastain 20 mg[11]	Diltiazem 240 mg	NS
Lovastatin 20 mg[12]	Cyclosporin 2-6 mg/kg	1.5 fold
Pravastatin 20 mg[12]	Cyclosporin 2-6 mg/kg	NS
Simvastatin 20 mg[13]	Cyclosporin (dose not controlled)	2.6 fold
Lovastatin 80 mg[14]	Grapefruit Juice 200 mL	5.0 fold
Simvastatin 60 mg[15]	Grapefruit Juice 200mL	6.8 fold

NS = Not significantly increased

Table 2.—CYP 3A4 Enzyme System Inhibitors With Proven or Potential Ability to Interact With HMG CoA RIs[2,5]

Class	Proven Drugs
Triazole Antifungals	Itraconazole (Sporanox®)
Macrolide Antibiotics	Erythromycin (Various) Clarithromycin (Biaxin®)
Antidepressants	Nefazodone (Serzone®)
Benzothiazepines	Diltiazem (Cardizem®)
Phenylalkylamines	Verapamil (Verelan®, Calan®, Covera HS®)
Concentrated Fruit Juice	Grapefruit Juice (Various)
Class	**Potential Drugs**
Protease Inhibitors	Indinavir (Crixivan®) Ritonavir (Norvir®) Saquinavir (Invirase®, Fortovase®) Amprenavir (Agenerase®)
Imidazole Antifungal	Ketoconazole (Nizoral®)
Triazole Antifungals	Fluconazole (Diflucan®)
Macrolide Antibiotics	Troleandomycin (Tao®)
Amebicide/Anaerobic Antibiotic	Metronidazole (Various)
Antileukotrienes	Zileutin (Zyflo®) Zafirlukast (Accolate®)
Antidepressants	Fluvoxamine (Luvox®)

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fluvastatin therapy has increased the prothrombin times and the INRs of patients in three case reports.[16] Lovastatin has also been shown to increase the prothrombin times of patients treated concurrently with warfarin but the CYP2C9 mechanism has not been explored.[1]

P-Glycoprotein interactions.—P-glycoprotein is an efflux pump found in high quantities in human jejunal villus enterocytes within the gastrointestinal tract.[17] P-glycoprotein actively secretes compounds from the blood into the lumen of the intestine. This could occur during the absorptive phase and decrease the bioavailability of drugs. This process has been found to reduce the bioavailability of certain drugs such as digoxin. Atorvastatin has recently been found to be a P-glycoprotein inhibitor.[17]

In a pharmacokinetic evaluation, atorvastatin 10 mg did not significantly change the Cmax or the AUC of digoxin, although they were increased by 9.9% (95% CI =–4.9 to 26.2) and 3.6% (95% CI =–39.8 to 15.4), respectively. Atorvastatin 80 mg increased the Cmax (20.0%, 95% CI = 3.5 to 39%) and the AUC (14.8%, 95% CI = 3.4 to 27.1%). A 20% increase in the Cmax could move an average patient with a peak digoxin level of 1.7ng/mL (normal range 0.5-2ng/mL) outside the normal therapeutic range.[17]

Conclusions

HMG CoA reductase inhibitors are a group of drugs with heterogeneity in pharmacokinetic parameters. Several pharmacokinetic parameters have clinical significance. Healthcare professionals need to appreciate the drug-food interaction with lovastatin and administer lovastatin with low fiber food. Combining simvastatin, lovastatin, or atorvastatin may increase the risk of rhabdomyolysis when combined with a CYP 3A4 inhibitor. Inhibition of the CYP2C9 enzyme system by fluvastatin and possibly lovastatin may result in increased prothrombin times and INRs when combined with warfarin. Combining atorvastatin and digoxin therapy may lead to increased digoxin levels that could result in toxicity. The risk is most evident at the 80 mg dose where the average patient with a serum digoxin level of 1.5ng/mL would be at risk.

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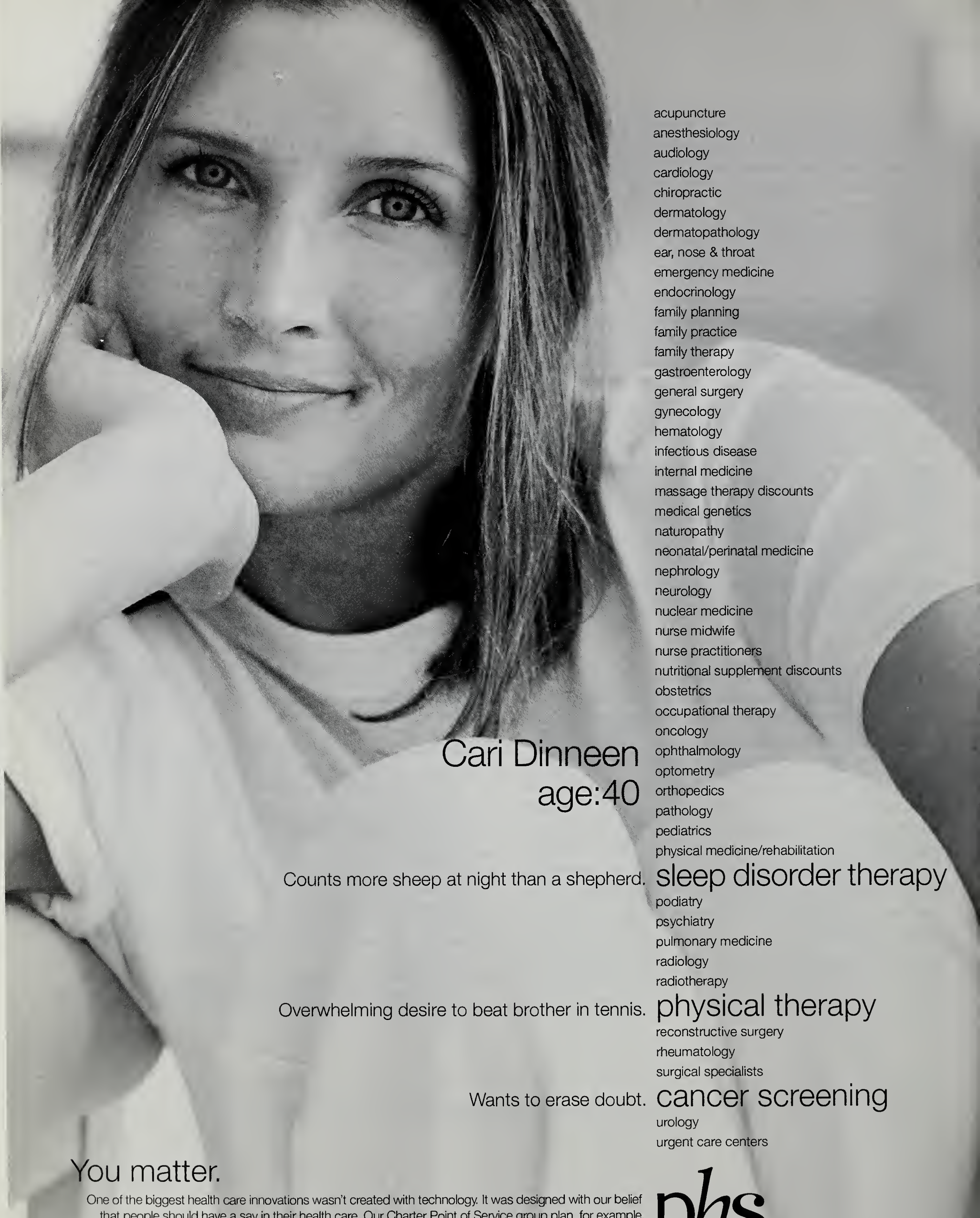

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Missed Opportunities for Prevention of Tuberculosis Among Persons With HIV Infection— Selected Locations, United States, 1996–1997

PUBLIC HEALTH contact investigations are conducted to find persons who have been exposed to patients with active tuberculosis (TB) and to evaluate and treat those contacts for TB infection and active TB. Persons in close (ie, prolonged, frequent, or intense) contact with patients with active TB are at high risk for TB infection. The risk for TB infection is increased greatly if the close contact is infected with human immunodeficiency virus (HIV).[1,2] Isoniazid (INH) treatment for latent TB infection (LTBI) reduces the risk for developing active TB by 41%-92%.[1] This study examined the clinic records of TB programs to determine whether these programs used recommended practices to manage HIV-positive persons exposed to TB.[3–8] The study suggests TB programs need to review their contact investigation policies, procedures, and outcomes to reduce missed opportunities for preventing active TB among HIV-positive close contacts.

Study investigators collected data during June 1998-January 1999 site visits. Eleven U.S. urban areas were selected by the highest number of contacts completing LTBI treatment. After case reports were linked to personal identifiers, study staff reviewed the clinic records for 6,225 close contacts to 1,080 sputum-smear-positive TB patients reported to CDC during July 1996–June 1997.

Of the 6,225 close contacts, HIV status was unknown for 5,415 (87%). Of the 810 close contacts with known HIV status, 109 (13%) were HIV-infected, of whom 79 (72%) received a chest radiograph; 14 (13%) had TB symptoms (eg, cough, night sweats, and weight loss); 90 (83%) received an initial tuberculin skin test (TST); and nine (8%) did not receive a chest radiograph or an initial TST. Forty (53%) of 75 TST-negative contacts did not receive follow-up TSTs; 21 (28%) received neither a follow-up TST nor a chest radiograph. Fourteen (13%) of 109 HIV-positive contacts were identified as having active TB compared with 120 (2%) of 6,116 HIV-negative contacts or contacts with unknown HIV status. HIV-infected close contacts were less likely to be TST-positive than HIV-negative contacts or contacts with unknown HIV status (14% and 36%, respectively).

Among 95 HIV-infected contacts without active TB, 11 (92%) of 12 TST-positive contacts were placed on LTBI treatment compared with 19 (23%) of 83 TST-negative or TST-unknown contacts. A median of 50 days passed before starting an HIV-positive contact on LTBI treatment compared with 33 days for HIV-negative contacts or contacts with unknown HIV status. TB programs employing public health nurses to conduct investigations placed 11 (92%) of 12 TST-negative or TST-unknown contacts on LTBI treatment compared with eight (11%) of 71 at programs that employ TB outreach workers.

Of the 30 HIV-positive contacts started on LTBI treatment, approximately half (14) completed treatment. Directly observed treatment (DOT) for LTBI was given to three HIV-positive contacts; two completed treatment. During the course of LTBI treatment, 10 HIV-infected contacts had interruptions of >1 month (when treatment was self-administered) or >2 weeks (when placed on DOT); three of the 10 completed treatment. Of 16 HIV-positive close contacts who did not complete treatment, six (38%) refused or were unwilling to continue treatment, two (12%) were lost to follow-up, one (6%) had alcoholism, one (6%) could not tolerate medication, and six (38%) had undocumented reasons.

Reported by: TB programs in Los Angeles County, San Diego County, San Francisco, and Santa Clara County, California; Fulton County Georgia; Chicago, Illinois; Newark, New Jersey; New York, New York; Shelby County, Tennessee, Houston, Texas, and King County, Washington. Prevention Effectiveness Section, Research and Evaluation Branch, Division of TB Elimination, National Center for HIV, STD, and TB Prevention, CDC.

Editorial Note: The study showed that few close contacts were assessed for HIV and that one quarter of those known to be HIV-infected were not screened completely

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Reprinted from the *Morbidity and Mortality Weekly Report,* 4 August 2000; vol.49, no. 30, Centers for Disease Control (CDC), National Institute for Health (NIH).

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for TB. Of eligible HIV-positive contacts, a third started and a sixth completed LTBI treatment. Because HIV positivity alters the approach to TB screening and the use of LTBI treatment, early knowledge by the health-care provider of a close contact's HIV status is essential. Active TB is curable and can be prevented in HIV-positive contacts when health-care providers know a close contact's HIV-status and follow CDC guidelines for TB screening and treatment and facilitate adherence to TB treatment.

Health-care providers should assess all close contacts for HIV infection by asking about their serostatus and offering voluntary HIV counseling and testing when the status is unknown.[8] TB staff should be trained to offer HIV counseling and testing to close contacts or should collaborate with HIV programs to offer these services. The use of rapid diagnostic tests may facilitate timely assessment of HIV status. All HIV-positive close contacts should be evaluated for active TB by medical history, symptom screening, and chest radiograph, and those with an abnormal chest radiograph or symptoms should receive a sputum examination.[5] HIV-positive close contacts should receive an initial TST regardless of previous TST results[5]; those with initial TST-negative reactions should receive a follow-up TST 10–12 weeks after last exposure to the patient with active TB.[4] As soon as active TB is excluded, LTBI treatment should begin for all HIV-infected close contacts regardless of age, TST results, or history of previous LTBI treatment.[5] Most HIV-positive close contacts should complete a full course of LTBI treatment.[9] Because the HIV-positive population is less likely to react to TST and more likely to have atypical chest radiographs, health-care providers need to be diligent in diagnosing TB infection and active TB. Two treatment regimens, nine months of INH (to be taken with pyridoxine to prevent peripheral neuropathy) or two months of daily rifampin (or rifabutin for those taking protease inhibitors or certain nonnucleoside reverse transcriptase inhibitors) and pyrazinamide, are preferred for the treatment of HIV-positive persons with LTBI.[10] The use of two-month LTBI regimens for HIV-infected adults may facilitate treatment implementation and increase completion rates.[10] However, INH is the only recommended regimen for children and pregnant women.[5]

The findings in this study are subject to at least three limitations. First, because the study relied on existing clinic records, documentation of HIV status often was incomplete or nonexistent. Laws restricting the recording of HIV status in databases may have affected such documentation. Second, the timing of health-care provider knowledge of HIV status and chest radiograph results was unknown because these dates were not collected and often were not recorded. Third, this study was designed to represent urban TB programs not rural programs or programs not using LTBI treatment.

These findings indicate a need for better incorporation of HIV assessment into contact investigation procedures and improved coordination between local TB and HIV programs to facilitate voluntary HIV counseling, testing, and follow-up for HIV-infected close contacts. Health-care providers and HIV-infected persons should be aware of optimal management of close contacts and of the benefits of prompt and well-supervised LTBI treatment to prevent active TB.

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Immunization of College Students Against Meningococcal Disease

The U.S. Public Health Service Advisory Committee on Immunization Practices has recently published new recommendations for prevention and control of meningococcal disease in college students (*MMWR Morb Mortal Wkly Rep,* 49 RR-7:11, June 30, 2000).

THE DISEASE—Five serogroups of *Neisseria meningitidis,* A, B, C, Y, and W-135, cause most cases of human disease. Between 2,400 and 3,000 cases occur annually in the U.S.A., and about 10% are fatal. College students account for about 3% of cases. The rate of meningococcal disease for college freshmen living in dormitories in 1998–1999 was 4.6/100,000, compared to 0.7/100,000 for undergraduates in general and 1.5/100,000 for people 18 to 23 years old who were not in college (LH Harrison et al, *JAMA,* 281:1906, 1999).

THE VACCINE—The only vaccine against meningococcal disease available in the United States (*Menomune*–Aventis Pasteur) contains capsular polysaccharides of serogroups A, C, Y, and W-135. Serogroup B, which is responsible for about one third of cases in the USA, does not have an immunogenic polysaccharide capsule. The manufacturer recommends a single 0.5-ml dose subcutaneously. The cost is $75, according to AWP listings in *Drug Topics Red Book Update,* July 2000.

EFFECTIVENESS—No controlled clinical trials have been conducted with the quadrivalent meningococcal vaccine, but it produces protective antibody levels in more than 90% of young adults within seven to 10 days. In a serogroup C community outbreak in Texas, the vaccine was 85% effective (N Rosenstein et al, *JAMA,* 279:435, 1998). The military, which has vaccinated recruits against meningococcal disease since 1971, now gives the quadrivalent vaccine to about 180,000 annually. Outbreaks of meningococcal disease in recruits, which were frequent before, no longer occur. The duration of immunity is not well defined but may be as long as 10 years (K Zangwill et al, *J Infect Dis,* 169:847, 1999). The manufacturer recommends revaccination, if indicated, after three to five years.

ADVERSE EFFECTS—No serious reactions clearly related to polysaccharide meningococcal vaccine have been reported in military recruits. Local tenderness, swelling and erythema are common, but usually brief and mild. Fever can occur.

CONCLUSION—Except for the cost, there is no good reason not to immunize college freshmen living in dormitories against meningococcal disease.

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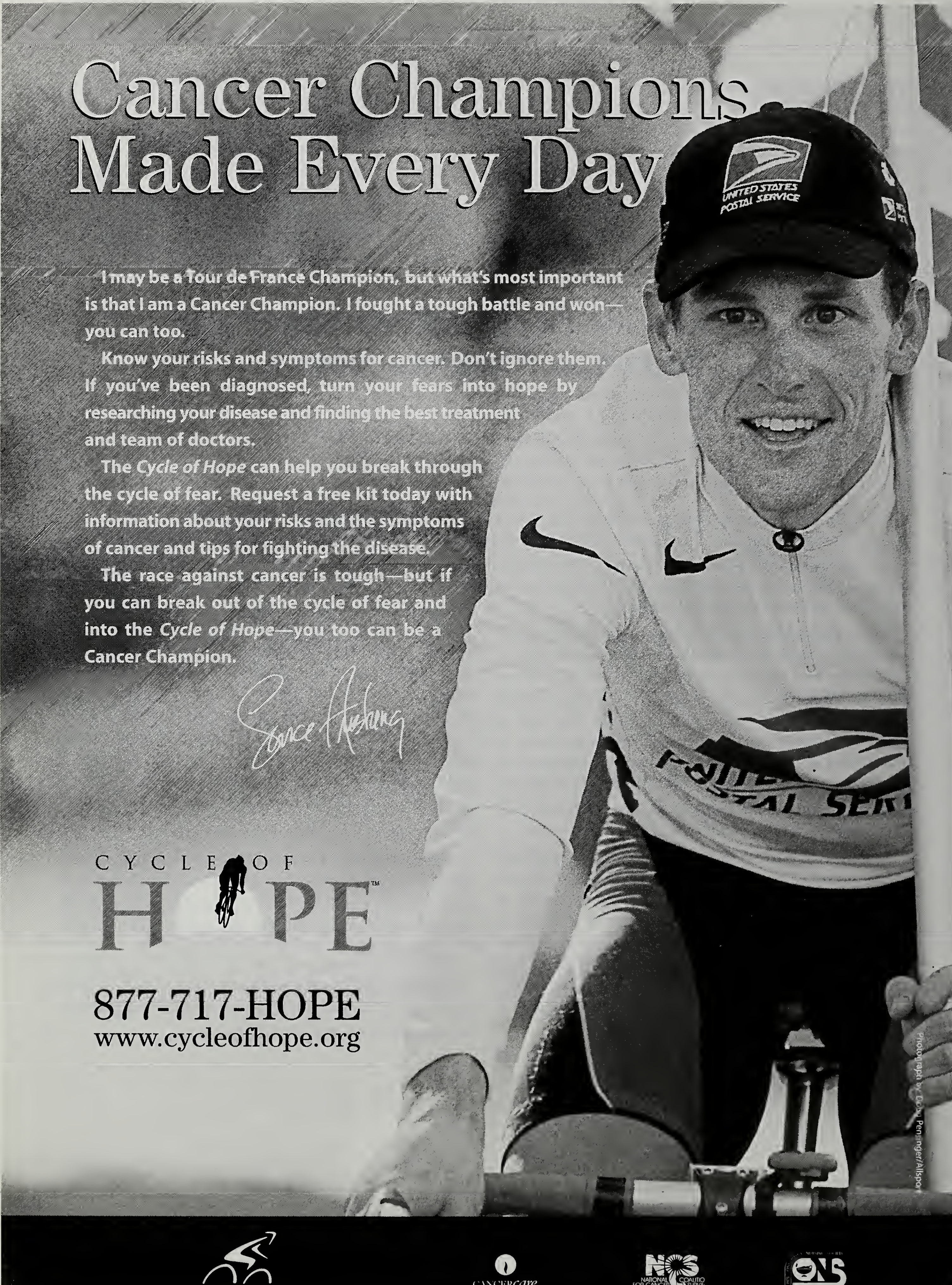

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Drugs for Pain

Three types of analgesic drugs are available: first, nonopioids, including aspirin, other nonsteroidal anti-inflammatory drugs (NSAIDs), and acetaminophen; second, opioids; and third, drugs not usually thought of as analgesics, which act as adjuvants when given with NSAIDs or opioids, or have analgesic activity of their own in some types of pain. Nonopioids can be given concurrently with opioids for an additive analgesic effect.

NONOPIOID ANALGESICS—The maximum analgesic effect of acetaminophen and aspirin usually occurs with single doses between 650 and 1,300 mg. With other NSAIDs, the ceiling effect may be higher. Tolerance does not develop to the analgesic effects of these drugs.

Acetaminophen—Acetaminophen is as effective as aspirin, similar in potency and, in single analgesic doses, has the same time-effect curve. Overdosage with acetaminophen can cause serious or fatal hepatic injury, and some patients, such as alcoholics, people who are fasting, and those taking isoniazid, zidovudine, or a barbiturate concurrently, may develop hepatic injury after moderate overdosage or even high therapeutic doses (*Medical Letter*, 38:55, 1996). Most patients, however, can take 4 grams a day with no adverse effects.

Aspirin—Aspirin is effective in most types of pain, including cancer pain. Unlike other NSAIDs, a single therapeutic dose irreversibly inhibits platelet function for the 8- to 10-day lifetime of the platelet, interfering with hemostasis and prolonging bleeding time. A single dose of aspirin can precipitate asthma in aspirin-sensitive patients. Multiple doses can cause gastropathy and salicylate intoxication. In children with varicella or influenza, aspirin can cause Reye's syndrome.

Nonselective NSAIDs—In single full doses, most of the NSAIDs listed in the table on page 543 are more effective analgesics than full doses of aspirin or acetaminophen, and some have shown equal or greater analgesic effect than usual doses of oral opioid combination products, or even injected opioids. Whether this is also true with repeated doses in chronic pain is less well established. Some patients may respond better to one NSAID than another (WT Beaver in GM Aronoff ed, *Evaluation and Treatment of Chronic Pain,* 3rd ea., Baltimore: Williams & Wilkins, 1999, page 455).

Adverse Effects—The adverse effects of nonselective NSAIDs are qualitatively similar to those of aspirin. They can precipitate asthma and anaphylactoid reactions in aspirin-sensitive patients. Unlike aspirin, however, other nonselective NSAIDs cause reversible inhibition of platelet aggregation; platelet function returns when most of the drug has been eliminated.

With chronic use, gastrointestinal bleeding, ulceration, and perforation can occur, often without warning. Ibuprofen in doses no higher than 1,600 mg/day may be less likely to cause serious gastrointestinal toxicity than aspirin or other nonselective NSAIDs (N Moore et al, *Clin Drug Invest,* 18:89, 1999), but fatal hemorrhage and perforation have occurred with all of these drugs. High doses, prolonged use, previous peptic ulcer, excessive alcohol intake, and advanced age increase the risk of these complications.

NSAIDs decrease synthesis of renal vasodilator prostaglandins, decrease renal blood flow, cause fluid retention, and may cause renal failure in some patients. Risk factors include old age, congestive heart failure, renal insufficiency, ascites, volume depletion, and diuretic therapy. Unlike opioids, NSAIDs have no potential for abuse; physical dependence on these drugs has not been reported.

Selective COX-2 Inhibitors—Celecoxib *(Celebrex–Medical Letter,* 41:11 and 28, 1999) and rofecoxib *(Vioxx–Medical Letter,* 41:59, 1999) appear to cause fewer episodes of serious Gl toxicity than nonselective NSAIDs. These selective COX-2 inhibitors do not inhibit platelet aggregation or increase bleeding time, and they may have a prothrombotic effect. Other adverse effects are similar to those of nonselective NSAIDs. Single-dose trials have found celecoxib 100 or 200 mg more effective than placebo but less effective than naproxen sodium 550 mg or ibuprofen 400 mg in oral surgery pain, and the FDA has not approved the drug for analgesic use. Single-dose trials have found rofecoxib 50 mg more effective than placebo and as effective as ibuprofen 400 mg or naproxen sodium 550 mg in oral surgery pain.

Ketorolac—Ketorolac is the only injectable NSAID available for analgesic use in the U.S.A. IM or IV ketorolac has analgesic efficacy comparable to moderate doses of morphine or meperidine, with a somewhat slower onset

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but a longer duration of action. Even with parenteral administration, gastrointestinal bleeding can occur.

OPIOIDS—Propoxyphene, pentazacine, and oral codeine and its congeners in usual doses are no more effective when taken alone than aspirin or acetaminophen. They are usually prescribed in combinations with these drugs to treat moderate or moderately severe pain. Morphine, meperidine, hydromorphone, oxymorphone, methadone, levorphanol, fentanyl, and large doses of oxycodone are generally used for more severe pain. Opioids are classified as full agonists, partial agonists, and mixed agonist-antagonists. Morphine and the other full agonists, unlike NSAIDs, generally have no ceiling for their analgesic effectiveness except that imposed by adverse effects.

Choice of Opioid—The parenteral full agonists listed in the table on page 544 differ in potency, but they are all equally capable of relieving acute pain if the appropriate dose is used. With codeine and meperidine, however, doses that would be equianalgesic with high doses of other agents would cause unacceptable adverse effects.

Morphine—Morphine is the standard of comparison for strong injectable analgesics. Given orally, morphine is well absorbed but extensively metabolized on the first pass through the liver; sustained-release preparations have a longer duration of action. The drug can also be given rectally (N Babul et al, *J Clin Pharmacol,* 38:74, 1998). Morphine has no greater dependence liability than equally effective doses of any other full agonist.

Meperidine—Meperidine has a more rapid onset of action than morphine, but it is irritating to tissues and shorter acting. Repeated doses of the drug lead to accumulation of normeperidine, a toxic metabolite with a 15- to 20-hour half-life that can cause dysphoria, irritability, tremors, myoclonus, and, occasionally, seizures, particularly with large repeated doses or decreased renal function. Meperidine should be used only for short-term treatment of acute pain (American Pain Society, *Principles of Analgesic Use in the Treatment of Acute Pain and Cancer Pain,* 4th ed, Glenview, Illinois: American Pain Society, 1999). In patients taking a monoamine oxidase (MAO) inhibitor, meperidine can cause severe encephalopathy and death *(Medical Letter Handbook of Adverse Drug Interactions,* 2000, page 315).

Methadone and Levorphanol—Methadone and sometimes levorphanol are used orally to relieve pain in patients with chronic pain. Since the plasma half-life of methadone is 24 to 36 hours and that of levorphanol is 12 to 16 hours, repeated doses of either can lead to accumulation and central-nervous-system depression, particularly in elderly or debilitated patients.

Tramadol—An oral opioid agonist that also blocks reuptake of norepinephrine and serotonin, tramadol is marketed for treatment of moderate to moderately severe pain. Its effectiveness is comparable to that of combinations of aspirin or acetaminophen with codeine or propoxyphene. Seizures have been reported in patients taking tramadol; patients with a history of seizures and those concomitantly taking an antidepressant, an MAO inhibitor, or an antipsychotic drug may be at increased risk. Tramadol is not scheduled as a controlled substance, but opioid-type dependence has occurred.

Fentanyl—Fentanyl is available for parenteral, transdermal, and oral transmucosal use. One oral transmucosal formulation *(Actiq),* a fentanyl lozenge on a handle, is used for treatment of breakthrough pain in cancer patients already taking strong opioids. It is available in 200- to 1,600-microgram strengths. The appropriate dose is determined by starting with the 200-mcg dose and titrating upward; there is no apparent relationship between the total daily dose of opioids and the dose of transmucosal fentanyl required to manage the breakthrough pain. Adverse effects are typical of strong opioids; patients and caregivers must be cautioned that a single fentanyl lozenge, which resembles a lollipop, can be fatal to a small child.

Partial Agonists and Mixed Agonist/Antagonists—The partial agonist buprenorphine is similar to the mixed agonist/antagonists pentazocine, butorphanol, and nalbuphine. All of these drugs have a ceiling on their analgesic effect roughly equivalent to moderate doses of opioids. All can precipitate withdrawal symptoms in patients physically dependent on full agonists. All° are less likely than full agonists to cause dependence, but none is free of dependence liability. Only pentazocine is available for oral use and only in combination products. Drug dependence and abuse have been a problem with use of butorphancl nasal spray for treatment of migraine.

Tolerance to Opioids—Tolerance is common with chronic use of opioids; the patient first notices a shorter duration of analgesia and then a decrease in the effectiveness of each dose. Tolerance can be delayed by using low doses and giving nonopioid analgesics concomitantly. Tolerance to most of the adverse effects of opioids, including respiratory and CNS depression, develops at least as rapidly as tolerance to the analgesic effect. Tolerance, therefore, can usually be surmounted and adequate analgesia restored by increasing the dose. Cross-tolerance exists among all of the full agonists, but it is not complete, and switching to another opioid, starting with half or less of the customary equianalgesic dose, may be helpful.

Dependence—Patients who take strong opioids will develop physical dependence with abstinence symptoms if the drug is discontinued suddenly or an opioid antagonist is given. Clinically significant dependence develops only after several weeks of chronic treatment with relatively large doses of morphine-like opioids. Patients who

NONOPIOID ANALGESICS

Drug	Usual analgesic dose	Dose interval	Maximum daily dosage	Comments
Acetaminophen (*Tylenol,* others)	PO: 500-1,000 mg	q4-6h	4,000 mg	As effective as aspirin; 1,000 mg more effective than 650 mg in some patients; duration of action usually four hours
Salicylates				
Aspirin (many manufacturers)	PO: 500-1,000 mg	q4-6h	4,000 mg	Duration of action after single doses usually four hours
Choline magnesium trisalicylate (*Trilisate,* others)	PO: 1,000-1,500 mg	q8-12h	3,000 mg	Effectiveness compared to aspirin not clear; onset of analgesia probably slower; less gastropathy and impairment of platelet function
Diflunisal (*Dolobid,* others)	PO: 1,000 mg initial then 500 mg	q8-12h	1,500 mg	500 mg superior to 650 mg of aspirin or acetaminophen, with longer duration
Some Nonselective NSAIDs				
Diclofenac potassium (*Cataflam)*	PO: 50 mg	q8h	150 mg	Comparable to aspirin with longer duration; available with misoprostol (*Arthrotec)* to decrease GI toxicity
Etodolac (*Lodine,* others)	PO: 200-400 mg	q6-8h	1,200 mg	200 mg comparable and 400 mg possibly superior to 650 mg of aspirin
Fenoprofen (*Nalfon,* others)	PO: 200 mg	q4-6h	1,200 mg	Comparable to aspirin; contraindicated in patients with impaired renal function
Ibuprofen (*Motrin,* others)	PO: 400 mg	q4-6h		200 mg equal to 650 mg of aspirin or acetaminophen, 400 mg superior with longer duration; 400 mg comparable to acetaminophen/codeine combination
For OTC use (*Advil, Nuprin,* others)	PO: 200-400 mg	q4-6h	1,200 mg	
Ketoprofen (*Orudis,* others)	PO: 25-75 mg	q6-8h	300 mg	12.5 mg comparable to ibuprofen 200 mg; 25 mg comparable to ibuprofen 400 mg and superior to 650 mg of aspirin; 50 mg superior to acetaminophen/codeine combination
For OTC use (*Actron, Orudis-KT)*	PO: 12.5-25 mg	q4-6h	75 mg	
Ketorolac (*Toradol,* others)	Patients <65 yrs IM or IV: 30 mg	q6h	120 mg	Comparable to 12 mg IM morphine with longer duration; use should be limited to five days; can be given as a single IM dose of 60 mg (<65 yrs) or 30 mg (>65 yrs)
	Patients ≥65 yrs IM or IV: 15 mg	q6h	60 mg	
	PO: 10 mg	q4-6h	40 mg	10 mg comparable to aspirin or acetaminophen; 20 mg comparable to ibuprofen 400 mg
Meclofenamate	PO: 50-100 mg	q4-6h	400 mg	Comparable to aspirin; approved for dysmenorrhea
Mefenamic acid (*Ponstel)*	PO: 500 mg initial then 250 mg	q6h	1,250 mg	Comparable to aspirin but more effective in dysmenorrhea; duration of use not to exceed one week
Naproxen (*Naprosyn,* others)	PO: 500 mg initial then 250 mg	q6-8h	1,250 mg first day then 1,000 mg	250 mg probably comparable to 650 mg of a aspirin with longer duration; 500 mg superior to 650 mg of aspirin
	OR 500 mg	q12h		
Naproxen sodium (*Anaprox* others)	PO: 550 mg initial then 275 mg	q6-8h	1,375 mg first day then 1,100 mg	275 mg comparable to 650 mg of aspirin with longer duration; 550 mg superior to 650 mg of aspirin with longer duration
	OR 550 mg	q12h		
For OTC use (*Aleve,* others)	PO: 220 or 440 mg initial, then 220 mg	q8-12h	660 mg	440 mg comparable to 400 mg of ibuprofen with longer duration
Selective COX-2 Inhibitors				
Celecoxib (*Celebrex)*	PO:100-200 mg	q12h	400 mg	Analgesic indication not approved by FDA; more effective than placebo but less effective than full doses of naproxen or ibuprofen
Rofecoxib (*Vioxx)*	PO: 50mg	q24h	50 mg	Effficacy similar to 400 mg ibuprofen or 550 mg naproxen sodium

OPIOID ANALGESICS

Drug	IM dose[1]	IM Duration (hours)[2]	Starting oral dose[3]	Comments
Agonists related to morphine				
Morphine	10 mg	3-6	20-60 mg	Available as 8-12h sustained-release tablets *(MS-Contin, Oramorph-SR),* 12-24h sustained-release capsules *(Kadian),* and as suppository
Hydromorphone *(Dilaudid,* others)	1.3 mg	3-5	4-8 mg	Available as high potency injectable *(Dilaudid-HP)* and as suppository
Oxymorphone *(Numorphan)*	1.1 mg	3-5	—	Available as suppository
Heroin[4]	4 mg	3-5	—	Adverse effects and dependence liability same as morphine
Agonists related to codeine				
Codeine	130 mg	3-5	30-60 mg	60 mg PO equivalent to 650 mg of aspirin or acetaminophen; usually used orally in combinations with these drugs; some patients resistant to analgesic effect
Dihydrocodeine *(Synalgos-DC; DHCplus)*	—	—	32 mg	Available only in combination with aspirin or acetaminophen
Hydrocodone *(Vicodin,* others)	—	—	5-10 mg	10 mg PO equivalent to codeine 60-80 mg PO; available only in combinations with acetaminophen, aspirin, or ibuprofen
Oxycodone *(Percocet,* others)	—	—	5 mg	10 mg PO equivalent to codeine 90 mg PO; available in combinations, as 5-mg tablets and capsules, as 12-h sustained-release tablets *(Oxy-Contin),* and oral solution
Synthetic opioid agonists				
Meperidine *(Demerol,* others)	75 mg	2-4	50 mg	More rapid onset of action than morphine, but irritating to tissues IM; toxic metabolite with long half-life causes CNS excitation and
			convulsions	
Fentanyl *(Sublimaze)*	0.1 mg	1-2	—	Transdermal patch *(Duragesic)* for chronic pain releases fentanyl over 72 hours, possibly with less constipation than morphine; oral transmucosal lozenges on a handle are *Actiq* for breakthrough pain and *Oralet for* preanesthetic use
Methadone *(Dolophine,* others)	10 mg	4-6	10-20 mg	Long half-life; risk of CNS depression with repeated use. Dosage reduction often necessary after 24-36hrs
Propoxyphene HCI *(Darvon,* others)	—	—	65 mg	65 mg of HCI or 100 mg of napsylate PO equivalent to codeine 32 mg PO; available in combinations with acetaminophen or aspirin; convulsions and cardiotoxicity have occurred
Propoxyphene napsylate *(Darvon-N,* others)	—	—	100 mg	
Levorphanol *(Levo-Dromoran,* others)	2 mg	4-6	2-4 mg	Long half-life; risk of CNS depression with repeated use
Tramadol *(Ultram)*	—	—	50-100 mg	50 mg equivalent to codeine 60 mg; 100 mg comparable to aspirin 650 mg plus codeine 60 mg; maximum dose 400 mg/day
Partial agonists and mixed agonist/antagonists				
Buprenorphine *(Buprenex,* others)	0.4 mg	4-6	—	Partial agonist; virtually no psychotomimetic effects; sublingual preparation[4] effective
Pentezocine *(Talwin, Talacen)*	60 mg	2-4	50 mg	Mixed agonist/antagonist; 50 mg PO equivalent to codeine 60 mg PO; very irritating to tissues; psychotomimetic effects; available in combinations with acetaminophen, aspirin or naloxone (to discourage abuse)
Butorphanol *(Stadol)*	2 mg	3-6	—	Mixed agonist/antagonist; nasal spray *(Stadol NS)* comparable to IM injection
Nalbuphine *(Nubain,* others)	12 mg	3-6	—	Mixed agonist/antagonist; less psychotomimetic effects than pentazocine

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1. Equivalent to 10 mg of IM morphine. Much larger doses may be needed after development of tolerance.
2. With an optimal dose established by titration.
3. These drugs are usually given q4-6h, but the duration of action varies with different doses and different patients, and the schedule should be established by titration.
4. Not available for clinical use in USA.

take opioids for acute pain or cancer pain rarely experience euphoria and even more rarely develop psychological dependence or addiction to the mood-altering effects of opioids.

Adverse Effects—Sedation, dizziness, nausea, vomiting, itching, and constipation are the most common adverse effects of opioids; respiratory depression is the most serious. Opioid-induced sedation can be ameliorated by giving small oral doses of dextroamphetamine or methylphenidate in the morning and early afternoon (E Bruera et al, *Pain,* 50:75, 1992). Tolerance usually develops rapidly to the sedative and emetic effect of these drugs, but not to constipation; a stool stimulant or stool softener should be started early in treatment. In one study, transdermal fentanyl caused less sedation and less constipation than sustained-release oral morphine (S Ahmedzhai and D Brooks, *J Pain Symptom Manage,* 13:254, 1997).

In patients with chronic obstructive pulmonary disease, cor pulmonale, decreased respiratory reserve or pre-existing respiratory depression, even usual doses of opioids, including the mixed agonist/antagonists, may decrease respiratory drive and cause apnea. Although patients without pulmonary disease who take opioids chronically are often tolerant to the respiratory depressant effect, opioid-naive acute pain patients are far more susceptible and therefore must be closely monitored. The addition of general anesthetics, phenothiazines, sedative-hypnotics such as benzodiazepines and barbiturates, tricyclic antidepressants, or other CNS depressants increases the risk.

Dosage—Opioid dose requirements vary widely from one patient to another. For most strong opioids, the dose should be increased until adverse effects occur before switching to another opioid. Once the optimal dose that will provide adequate analgesia, hopefully for at least four hours, has been established by titration, it should generally be given for chronic pain on a schedule, with the provision that the patient can refuse a dose if not in pain. "By-the-clock" administration of analgesics is much more effective than waiting for severe pain to return before giving the next dose and may decrease total dosage. An order for a supplementary opioid dose between regular doses should be available as a rescue for breakthrough pain. Patient-controlled analgesia (PCA), given intravenously, subcutaneously or by other routes, is widely used now (*Medical Letter,* 31:104, 1989; NI Cherny, CA, 50:70, 2000).

ADJUVANT ANALGESICS—Antidepressants and anticonvulsants are the mainstay of therapy for a variety of neuropathic pain syndromes (WS Kingery, *Pain,* 73:123, 1997; SH Sindrup and TS Jensen, *Pain,* 83:389, 1999). Neuropathic pain may be less responsive to opioids than nociceptive pain (P Dellemijn, *Pain,* 80:453, 1999).

Antidepressants—Tricyclic antidepressants such as amitriptyline and imipramine can relieve many types of neuropathic pain, including diabetic neuropathy, postherpetic neuralgia, polyneuropathy, and nerve injury or infiltration with cancer (RL Barkin and J Fawcett, *Am J Ther,* 7:31, 2000). Analgesic efficacy often occurs at lower doses than those used to treat depression. Newer antidepressants have also been effective in some patients with chronic pain (A Ansari, *Harvard Rev Psychiatry,* 7:257, 2000).

Anticonvulsants—Carbamazepine, phenytoin, sodium valproate, or clonazepam can also relieve neuropathic pain (HJ McQuay et al, *BMJ,* 311:1047, 1995). In controlled trials, gabapentin has been effective in diabetic neuropathy and postherpetic neuralgia, and well tolerated (MA Laird and BE Gidal, *Ann Pharmacother,* 34:802, June 2000). Lamotrigine and topiramate may also be effective (ZH Bajwa et al, *Neurology,* 52:1917, 1999; PM Simpson et al, *Neurology,* 54:2115, 2000).

Caffeine in doses of 65 to 200 mg may enhance the analgesic effect of acetaminophen, aspirin, or ibuprofen. **Hydroxyzine** in doses of 25-50 mg may add to the analgesic effect of opioids in postoperative and cancer pain while reducing the incidence of nausea and vomiting. **Corticosteroids** can produce analgesia in some patients with inflammatory diseases or tumor infiltration of nerves.

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Confidentiality of Medical Records: An Overview for the Connecticut Physician

BARBARA BLECHNER, J.D. AND DAVID MACK, J.D.

ABSTRACT—An ongoing concern for physicians and their patients is protecting the confidentiality of medical records. The proliferation of electronic methods for collecting and storing medical information, along with the growing complexity of the health-care system, has created the need for new means to protect confidentiality. Currently, a patchwork of protections requires that physicians keep patients' medical information confidential. This article reviews the three major sources of medical confidentiality protections: Connecticut law, federal law, and professional standards, all of which provide an array of protections. A brief summary of proposed federal and state legislation is also included. The challenge of effectively maintaining confidentiality in today's electronic age has prompted the Connecticut General Assembly, Congress, and other federal agencies to consider additional safeguards. The article summarizes the relevant legal framework in order to orient medical professionals to the complexities, practice challenges, and legal aspects of maintaining confidentiality.

Introduction

AN ongoing concern for physicians and their patients is protecting the confidentiality of medical records. The proliferation of electronic methods for collecting and storing medical information, along with the growing complexity of the health-care system, has prompted a call for new legislation to protect medical confidentiality. Currently, a patchwork of protections requires that physicians maintain the confidentiality of the medical information they collect.[1] However, the challenge of effectively maintaining confidentiality in today's electronic age has prompted the Connecticut General Assembly, Congress, and other federal agencies to consider additional safeguards.

This article reviews the three major sources of current medical confidentiality protections: Connecticut law, federal law, and professional standards. All provide an array of protections for the privacy or confidentiality[2] of medical information. In addition, the article presents an overview of the relevant legal framework in order to orient medical professionals to the complexities, practice challenges, and legal aspects of maintaining confidentiality. A brief summary of federal and state legislation is also included.

Background

As physicians are well aware, confidentiality has a long history and tradition in the medical profession and is crucial to the doctor-patient relationship. Since the origin of the Hippocratic Oath 2,500 years ago, physicians have sworn to keep confidential what they see or hear during the course of treatment. This duty of confidentiality preserves trust in the doctor-patient relationship and supports the privacy of a patient's health-care information. When patients trust that the physician will not reveal personal information without consent, they feel free to discuss intimate problems honestly. As a result, the physician can elicit all necessary information and then provide the appropriate care.

BARBARA BLECHNER, M.Ed., J.D., Assistant Professor, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington; DAVID MACK, J.D., M.P.H., Research Associate, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington.

Inquiries may be directed to Barbara Blechner, J.D., Department of Community Medicine, University of Connecticut School of Medicine, MC 6325, Farmington CT 06030. Tel. (860) 679-5496. blechner@NSO.UCHC.Edu

Patients also rely on confidentiality to avoid personal injury from the disclosure of intimate or embarrassing information. An unwanted disclosure to an employer, business colleague, spouse, family member, or close friend may adversely affect business or personal relationships. In some instances, medical information may be used commercially for marketing purposes, increasing the possibility of harm to a patient. Further, health information in the wrong hands can lead to discrimination, especially in the insurance and employment contexts.

In the past, it was easier for health-care professionals to maintain confidentiality because only the doctor had access to the medical record. However, as the health-care system continues to become more complex, the threat to confidentiality grows. The physician's duty to maintain the confidentiality of medical records is ever more difficult. One physician commentator lamented over 15 years ago that medical confidentiality is a "decrepit concept."[3] The fear that confidentiality no longer exists has markedly intensified since that time, paralleling the growing complexity of the health-care environment. The advent of new technology, particularly the computerization of medical records, has made personal medical information available to potentially hundreds of individuals who did not have access in the past.

Clearly, new technologies have contributed to significant advances in health care. The ease of collecting, storing, and using personal medical information has improved the quality of care. With ready access to comprehensive medical information, physicians are able to make better health-care decisions. Databases of health information have also enhanced health-care quality, utilization, and cost assessments. Improvements in claims processing, prevention of fraud and abuse, evaluation of access to health care, and opportunities for research have all occurred as a result of computerized data.

Unfortunately, the benefits of these technological advances have not come without cost. Increased access to health information has also increased the risk of harm from its improper use and disclosure. Physicians can no longer adequately police the information they collect. Laws may be necessary to enforce the trust that is implicit in the doctor-patient relationship.

Discussion

A patchwork of protection for the confidentiality of medical records currently exists. State and federal law, as well as professional standards, all address an assortment of circumstances associated with safeguarding confidentiality.

Connecticut Confidentiality Protections

Connecticut, like many states, provides a combination of statutory and regulatory protections for the confidentiality of medical records. As a general rule, a physician may not disclose medical information to third parties without the consent of the patient, the patient's attorney, or an authorized representative.[4] However, the law is complicated, and different laws protect different records in different ways. In Connecticut, the most common type of confidentiality protection is associated with the existence of a potentially stigmatizing medical condition, such as AIDS. A second type of protection, enacted in 1999, involves restricting the sale or marketing of medical information. The physician privilege statute provides a third realm of confidentiality protection. Other protections apply specifically to medical information held by certain nonphysician providers, many third parties, and government agencies. Finally, confidentiality protection is also provided for medical information collected and stored in particular locations, such as mental health facilities or nursing homes.

Disease-based confidentiality protections

Confidentiality of medical records is often protected for specific diseases or medical conditions. This type of protection is generally applied when the disclosure of a medical condition could lead to stigmatization or discrimination. In Connecticut, the confidentiality of medical records is protected for a variety of medical conditions, including HIV/AIDS, mental health problems, alcohol and drug abuse, and sexually transmitted diseases.

HIV and AIDS.—Medical records and information related to HIV and AIDS are rigorously protected by state law. "No person who obtains confidential HIV information may disclose or be compelled to disclose such information...."[5] Specifically, a physician may not disclose

> information pertaining to the protected individual or obtained pursuant to a release of confidential HIV-related information, concerning whether a person has been counseled regarding HIV infection, has been the subject of an HIV-related test, or has HIV infection, HIV-related illness or AIDS, or information which identifies or reasonably could identify a person as having one or more conditions, including information pertaining to such individual's partners.[6]

The statutory prohibition against disclosure does contain exceptions. A physician may disclose confidential HIV-related information under the following general circumstances:[7]

- to the protected individual or legal representative
- with lawful consent
- as mandated by law
- to a health-care provider or health facility when necessary to provide appropriate care or treatment
- when HIV-related information is already recorded in the patient's medical record held by a health-care provider

- to a medical examiner
- to a health facility staff committee or accreditation or oversight review organization
- under certain circumstances when a health-care professional or other person has a significant exposure to HIV infection in the course of working
- to employees of the Department of Mental Health and Addiction Services and the Department of Corrections if a patient's behavior poses a significant risk of transmission to another patient or inmate
- by court order issued in compliance with law
- to certain insurers, payers, and health-care providers in connection with underwriting and claims
- to a known partner, as outlined by law, if both patient and partner are under the physician's care; or, if not, to a public health officer for the purpose of warning of the possibility of transmission

If HIV-related information is disclosed, a written statement must accompany the disclosure. The statement must include the following language prohibiting further disclosure:

> This information has been disclosed to you from records whose confidentiality is protected by state law. State law prohibits you from making any further disclosure of it without the specific written consent of the person to whom it pertains, or as otherwise permitted by said law. A general authorization for the release of medical or other information is NOT sufficient for this purpose.[8]

A similar statement must follow an oral disclosure within 10 days.[9] The medical records must note in writing all disclosures except under narrow circumstances, such as when the disclosure is made to a government agency or for quality of care evaluations. At a patient's request, the physician must divulge all disclosures made.

Mental health.—Psychiatrists and psychologists are bound by specific privilege statutes. In general, communications and records resulting from mental health treatment are privileged and must be kept confidential.[10] A patient or authorized representative must provide consent for the release of mental health records specifying to whom the information may be disclosed and how it will be used. However, disclosure without consent is permissible under the following circumstances:

- to prevent imminent physical injury to the patient
- in a claim for collections (only minimal information such as name, address, amount owed, and other limited information necessary to substantiate the claim may be disclosed)
- when the communication occurs in the course of a court-ordered mental health examination
- to a homicide victim's family or legal representative for use in a civil action not later than six years after the patient is found not guilty by reason of mental disease or defect
- when a patient introduces a mental condition as part of that patient's civil claim or defense

In addition, disclosure without consent may be permissible under the following circumstances, depending on the mental health provider:

- to other providers or mental health facilities as necessary for diagnosis or treatment after informing the patient that the information will be disclosed
- for the purposes of placing a patient in a mental health facility by commitment or otherwise
- to the Commissioner of Public Health as outlined by law
- for the purpose of billing the Department of Mental Health and Addiction Services (only limited information may be disclosed as outlined by law)
- for research purposes as provided by law
- the patient makes a communication after being informed that the communication would not be kept confidential
- to report known or suspected abuse of a child or an elderly disabled or incompetent person

Depending on the circumstances and the mental health provider, disclosure must include a statement that prohibits further disclosure.[11] In addition, a person aggrieved by violation of these mental health confidentiality laws may have an action for civil damages against the mental health professional who disclosed the confidential or privileged information.[12]

Alcohol and drug treatment.—In Connecticut, confidentiality protection for alcohol and drug treatment records entails adherence to federal law.[13] Both federal and Connecticut law require that any references to an individual's identity, diagnosis, prognosis, or treatment that are contained in alcohol and drug treatment records must be held confidential.[14] Disclosure of medical record information obtained by federally funded alcohol and drug treatment centers requires patient consent. Further, under Connecticut law, a physician must obtain a minor's consent in order to inform a parent or legal guardian that the minor sought treatment or rehabilitation for alcohol or drug dependence.[15] However, a physician is not liable for disclosure of alcohol or drug information if the disclosure is made in a written application for commitment or transpires in a commitment hearing.[16]

Minors with sexually transmitted diseases.—Information regarding consultation, examination, and treatment of a minor for a sexually transmitted disease must be kept confidential. No facility or physician may disclose such information.[17] A health-care provider may not send a bill for services to any person other than the minor patient.[18] However, physicians must report to the Department of Public Health any case of sexually transmitted disease listed on the Commissioner of Public Health's list of reportable diseases.[19] Further, the law requires physicians to report to the Commissioner of Children and Families the name, age, and address of any minor under the age of 12 who seeks consultation, examination, or treatment for a sexually transmitted disease.[20] A physician must also notify the local director of health if an infectious patient of any age with gonorrhea or syphilis neglects or refuses to follow prescribed instructions or discontinues treatment.[21]

Recently enacted confidentiality provisions

In 1999, Connecticut enacted a law prohibiting the sale of individually identifiable medical record information. In addition, disclosure of such information for marketing purposes without written consent is also prohibited.[22] The law applies to health-care professionals; medical care centers; pharmacies; insurance institutions, agents, or support organizations; pharmaceutical companies; schools; and universities. Under certain circumstances, individually identifiable medical record information may be disclosed without consent: for utilization review, quality review, performance improvement, billing, direct patient care, and certain clinical research reasons. Violation of this law allows a harmed individual to bring legal action for equitable relief, double damages, costs, and reasonable attorney's fees. Monetary penalties for each intentional violation may be imposed in the amount of 20,000 dollars, not to exceed 100,000 dollars, for multiple violations.

In addition, a person who discloses individually identifiable medical record information with the malicious intent to damage an individual's reputation or character is subject to punishment. The penalty may consist of a fine of not more than 500 dollars or imprisonment of not more than three months, or both, for the first offense, and a fine of not more than 2,000 dollars or imprisonment of not more than one year for each subsequent offense.

The law also requires insurance institutions, agents, or support organizations that regularly collect, use, or disclose medical record information to develop and implement policies and procedures for the use of this information. Such policies and procedures must:

- limit access
- authorize and restrict collection, use, and disclosure of information
- provide for appropriate training and identification of those authorized to disclose information
- provide for methods of dealing with information
- provide for disciplinary measures for violations of the policies or procedures
- provide for additional protection for the disclosure of sensitive health information

As written, however, this law has limited application. It does not cover large, self-insured ERISA plan companies. Consequently, only about half of all health plans are affected.[23]

Other connecticut confidentiality protections

Connecticut law contains many other confidentiality provisions. Some relate to a general physician privilege, while others apply to nonphysician providers. There are provisions that protect information collected or located in certain facilities, provisions protecting information stored or used by third parties, and provisions protecting information stored or used by government agencies. Many of these provisions merely require that the specified medical information be kept confidential.

Physician privilege.—In most legal proceedings, a physician may not disclose any medical information without the patient's consent.[24] Physician privilege extends to communications or information obtained from the patient or others with respect to a physical or mental disease or disorder, or information obtained by physical examination. However, there are exceptions to this law. Consent is not necessary if disclosure is:

- required by law
- to a health-care provider's attorney or insurer if a claim has been or will be made against the health-care provider
- to the Commissioner of Public Health as required by law to report known or suspected child abuse, elderly abuse, abuse of a disabled or incompetent person, or abuse of a person with mental retardation

Nonphysician providers.—A physician is required to ensure that any staff member with access to patient medical information abides by all relevant confidentiality provisions. There are also specific statutes that require certain nonphysician providers to protect the confidentiality of medical information. Table 1 contains a select list of statutes that safeguard the confidentiality of information collected in encounters with nonphysician providers.

Location-based protection.—Special confidentiality provisions may apply to specific locations where a physician treats patients. Table 2 includes a select list of laws that provide for confidentiality protection based upon where the information is collected or located.

Protections imposed on third parties and government agencies.—Physicians are often responsible for disclosing information to third parties and government agencies. Various confidentiality laws, depending on the circumstances of the disclosure, may protect this information. Tables 3 and 4 provide select lists of laws that protect the confidentiality of information held, respectively, by various third parties and government agencies.

Federal Confidentiality Protections

Federal law provides some limited protections for the confidentiality of medical records. The U.S. Constitution, the Privacy Act of 1974, regulations regarding alcohol and drug treatment, and regulations related to the care of veterans all offer federal protection. The Freedom of

Information Act also contains provisions pertaining to the disclosure of medical information.

PRIVACY ACT OF 1974

The Privacy Act of 1974 protects medical records held by government agencies.[25] Agencies are prohibited from disclosing information without consent, unless the disclosure is for a "routine use." "Routine use" is broadly defined as a disclosure for any "purpose which is compatible with the purpose for which it was collected." Individuals must be given the opportunity to review, copy, and request correction of their records.

ALCOHOL AND DRUG REGULATIONS

The records of patients receiving care for drug or alcohol dependency in federally funded facilities are protected by special federal regulations.[26] These records must be kept confidential. The law states that patient consent is required for disclosure of maintained medical records that include identity, diagnosis, prognosis, or treatment.

FREEDOM OF INFORMATION ACT

The Freedom of Information Act of 1966 (FOIA) grants the public the right to obtain information from federal agency records.[27] The FOIA specifies nine exceptions to the disclosure requirements. Several of these exceptions apply to medical information, including "personnel and medical files and similar files the disclosure of which would constitute a clearly unwarranted invasion of personal privacy."[28] The exceptions from disclosure of medical information under the FOIA are not absolute. Medical information may still be disclosed under the FOIA if it is determined that the individual's personal interest in preventing disclosure is outweighed by the public interest in obtaining access to the information.[29] Moreover, the agency that administers FOIA has the discretion to disclose information even if the disclosure is covered by an exception.

Professional Standards

Every physician is governed by the ethics of medical practice with regard to the confidentiality of medical information. Compliance with these professional standards is expected, and failure to do so may subject a physician to liability or discipline for breach of confidentiality.

The American Medical Association's (AMA) Code of Medical Ethics, first adopted in 1847, sets professional standards for physicians.[30] Section 5.05 relates to confidentiality of medical records and provides in part that:

> The information disclosed to a physician during the course of the relationship between physician and patient is confidential to the greatest possible degree. The patient should feel free to make a full disclosure of information to the physician in order that the physician may most effectively provide needed services. The patient should be able to make this disclosure with the knowledge that the physician will respect the confidential nature of the communication. The physician should not reveal confidential communications or information without the express consent of the patient, unless required to do so by law.

Similar protection for minors is provided in Section 5.055, which requires special consideration for the patient's age.

The AMA Code contains a lengthy section on confidentiality of computerized medical records.[31] Specific guidelines address the entering of information in a computer; storing, disseminating, and modifying information; and security procedures. The Code further specifies that disclosure for insurance purposes may be made only with the consent of the patient or a lawful representative.[32]

Protections for patient confidentiality are also found in the accrediting guidelines of the Joint Commission on the Accreditation of Health Care Organizations (JCAHO). The JCAHO broadly requires that every hospital develop a means of providing for the patient's right to confidentiality of information.[33] Hospitals must have policies and procedures that address confidentiality, and must inform patients of those policies upon admission.

Courts often use professional standards to determine the standard of care that, when breached, establishes liability on the part of the physician. For example, in *Vassiliades v. Garfinkel's Brooks Bros.*, 492 A.2d 580 (1985), the court cited section 5.05 of the AMA Code of Ethics as evidence of confidentiality requirements. In this case, a plastic surgeon, without the patient's consent, used photographs taken before and after facial surgery to promote plastic surgery.[34] The court used the AMA Code of Ethics to establish the standard of care, which is the level of care that a reasonable physician would provide under the same or similar circumstances. The court decided that the physician was liable for breach of confidentiality because he violated the professional standard of care.

Professional standards do not have the force of law unless adopted by a court of law in the jurisdiction where the physician practices. However, it is important that physicians understand and abide by the standard of care as outlined in the AMA Code of Ethics. If a court adopts this standard, a physician may be liable or subject to discipline for failing to comply with the standards.

Proposed Confidentiality Regulations

PROPOSED FEDERAL REGULATIONS

The Health Insurance Portability and Accountability Act of 1996 (HIPAA), otherwise known as the Kennedy-Kassebaum Act, mandated Congress to enact computerized medical record privacy legislation by 20 August 1999. Although at least three bills were introduced,[35] Congress failed to enact a law. Consequently, HIPAA gave the Department of Health and Human Services (DHHS) the opportunity to issue regulations by 20 February 2000. DHHS failed to issue a final rule by the February deadline. However, the final rule, which will be based upon proposed health privacy regulations published by DHHS on 3 November 1999, is expected soon.

The proposed rule will provide broad protection for individually identifiable health information that is electronically transmitted or stored by health-care providers. The rule will permit providers to use or disclose information without the patient's consent for the purposes of treatment, payment, or health-care operations, as well as for other delineated purposes. Providers will be required to take reasonable steps to use or disclose only the minimum protected health information necessary. Further, patients will have certain rights with regard to their medical records. Patients will have the right to notice, inspection, copying, and an accounting of each disclosure, as well as the right to request an amendment or correction if a potential problem with the medical record is found.

The proposed rule includes many administrative requirements. Providers will have to implement policies and procedures to ensure the safeguarding of protected health information. The rule also provides for civil and criminal penalties, and possibly a private civil cause of action. Immunity may be granted under a number of circumstances. For example, when an entity can prove that it exercised reasonable diligence but violated the rule without knowledge, immunity may be given.

It is important to consider how the new federal rule will affect the patchwork of existing state law. Any state law that is contrary to the proposed federal rule will be preempted. However, a state law that is more stringent than the rule will remain in effect, unless specifically preempted by the rule. Thus, the rule establishes a baseline of protection for certain types of medical information.

PROPOSED CONNECTICUT LEGISLATION

An Act Protecting Sensitive Patient Medical Information, S.B. 477, was introduced in the 2000 legislative session. However, the bill was not sent on to the General Assembly by the Public Health Committee. The proposed law provided for general confidentiality protections, and also included specific confidentiality protections for disclosures to health insurers. If a law regarding medical record confidentiality is to be passed in Connecticut, a new bill will have to be introduced next year.

Conclusion

Physicians are mandated in many ways to protect confidentiality. In addition to the Hippocratic Oath, existing state and federal confidentiality laws aim to safeguard personal areas of medical care. Physicians are also bound by professional standards to maintain the confidentiality of nearly all medical records. However, the escalation of new technologies in medical record keeping, along with a more complex health-care environment, necessitates the creation of new protections.

There are now additional layers of individuals with access to personal medical information. Utilization reviewers, quality management teams, government agencies, researchers, billing and accounts managers, marketers, benefits managers, third party payers, and employers all utilize medical information. As more and more people have access to medical records, the opportunities for misuse of personal health-care information will continue to grow.

While physicians must persist in their vigilance to protect medical information, they are no longer able, by themselves, to assure patient confidentiality. Instead, all of the individuals and entities that come into contact with medical records must share the responsibility for devising, implementing, and complying with safeguards. It is evident that new laws will provide part of the solution. As legislation is proposed and the law begins to catch up with changing technology, society must continue to define roles and responsibilities for protecting patient confidentiality.

Acknowledgment

The authors wish to acknowledge the contribution of Cynthia W. Sheppard, J.D., for her earlier research on confidentiality law in Connecticut.

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2. The terms 'privacy' and 'confidentiality' have different meanings, even though they are often used interchangeably. Privacy refers to information that is private to an individual and not to be disclosed to another. Confidentiality refers more specifically to information obtained in a confidential relationship, such as the doctor-patient relationship, that the doctor will not repeat to a third party. Annas GJ: *The Rights of Patients.* Carbondale and Edwardsville: Southern Illinois University Press; 1989:175–95. *See also,* Beauchamp TL, Childress JF: *Principles of Biomedical Ethics.* New York, NY:Oxford University Press; 1994:418. Starr P: Health and the right to privacy. *Am J Law Med* 1999; 25:193–201.
3. Siegler M: Confidentiality in medicine—A decrepit concept. *N Eng J Med* 1982; 307:1518–21.
4. C.G.S. § 20-7c. See also, C.G.S. § 20-7d (providing for disclosure to another provider upon written consent of the patient).
5. C.G.S. § 19a-583.
6. C.G.S. § 19a-581, Conn. Agencies Regs. § 19a-589-1.
7. C.G.S. § 19a-583 et seq.; Conn. Agencies Regs. § 19a-589-2.
8. C.G.S. § 19a-585 (emphasis in original).
9. *Id.*
10. C.G.S. §§ 52-146c, 52-146d.
11. C.G.S. § 52-146i.
12. C.G.S. § 52-146j.
13. C.G.S. § 17a-688. *See also,* Conn. Agencies Regs. § 19a-495-571 (providing for substance abusive or dependent persons in recovery care centers. Recovery care centers are required to maintain

Table 1.—Select Medical Confidentiality Protections for Nonphysician Providers

Area of Protection	Authority
Privileged communications between battered women's or sexual assault counselors and the victim	C.G.S. § 52-146k
Privileged communications between marital and family therapist and person consulting such therapist	C.G.S. § 52-146p
Confidential communications between social worker and persons consulting social worker	C.G.S. § 52-146q
Pharmacists	C.G.S. § 20-626

Table 2.—Select Location-Based Medical Confidentiality Protections

Area of Protection	Authority
Medical and psychological examinations of pupils in schools	C.G.S. § 10-209
Department of mental health facilities or programs	C.G.S. § 17-210a
Patients in mental health facilities	C.G.S. § 17a-548
Communicable disease control clinics	C.G.S. § 19a-216a
Nursing homes and chronic disease hospitals—patient's bill of rights	C.G.S. § 19a-550
Pharmacies	C.G.S. § 20-626
Child care facilities	Conn. Agencies Regs. § 17a-145-98
Extended day treatment programs	Conn. Agencies Regs. § 17a-147-34a
Short-term hospitals, special hospitals, hospice	Conn. Agencies Regs. § 19-13-D4b
Chronic and convalescent nursing homes and rest homes with nursing supervision	Conn. Agencies Regs. § 19-13-D8t
Infirmaries operated by educational institutions	Conn. Agencies Regs. § 19-13-D43a
Industrial health facility records	Conn. Agencies Regs. § 19-13-D44
Outpatient clinics by corporations or municipalities	Conn. Agencies Regs. § 19-13-D49
Outpatient clinics—regarding abortions	Conn. Agencies Regs. § 19a-116-1
Recovery care centers	Conn. Agencies Regs. § 19a-495-571
Clinics under insurance department regulation	Conn. Agencies Regs. § 38a-199-5

Table 3.—Select Medical Confidentiality Protections for Third Parties

Area of Protection	Authority
Medical peer review committees	C.G.S. § 19a-17b
Utilization review companies	C.G.S. § 38a-226c; Conn. Agencies Regs. § 19a-165q-100
External appeals entities	Conn. Agencies Regs. § 38a-478n-4

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confidentiality of applicable medical records; except when the patient consents, the patient is transferred to another health care institution, as required by law, or pursuant to a third-party payment contract.)

14. C.G.S. § 17a-688. 42 U.S.C. § 290dd-2(a).
15. C.G.S. § 17a-688(d).
16. C.G.S. § 17a-689.
17. C.G.S. § 19a-216.
18. *Id.*
19. *See,* C.G.S. § 19a-215.
20. C.G.S. § 19a-216; See also, Conn. Agencies Regs. § 19a-36-A15.
21. Conn. Agencies Regs. § 19a-36-A15.
22. P.A. 99-284 (An Act Concerning Managed Care Accountability).

Table 4.—Select Medical Confidentiality Protections for Government Agencies

Area of Protection	Authority
Freedom of Information Act exception to disclosure	C.G.S. § 1-19
Mental Health and Addiction Services	C.G.S. § 17a-451
Commissioner of Mental Health and Addiction Services alcohol or drug dependency examination	C.G.S. § 17a-694
Department of Public Safety, Department of Social Services, United States Department of Health and Human Services	C.G.S. § 17b-225
Connecticut home care for the elderly disclosures to the Department of Social Services	C.G.S. § 17b-342
Protective services for the elderly and the Department of Social Services, Department of Human Resources, Department of Aging	C.G.S. § 17b-454; Conn. Agencies Regs. §§ 17a-430-7, 17b-461-7
Childhood immunization registry	C.G.S. § 19a-7h
Department of Public Health and local directors of health	C.G.S. §§ 19a-25, 19a-215; Conn. Agencies Regs. § 19a-36-A5
Office of the Chief Medical Examiner	C.G.S. § 19a-411; Conn. Agencies Regs. § 19a-401-12
Office of Health Care Access	C.G.S. § 19a-621
Family and Medical Leave Act records	C.G.S. § 31-51oo
Department of Child and Family Services	Conn. Agencies Regs. § 17a-150-83
Abortion information with Department of Public Health	Conn. Agencies Regs. § 19-13-D54
Veteran's information	Conn. Agencies Regs. §§ 27-1021(d)-21, 27-1021(d)-140

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24. C.G.S. § 52-146o.
25. 5 U.S.C. § 552a.
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28. *Id.*
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Commentary

Privacy and Genetics

My interest as a surgeon is primarily in gastrointestinal tract cancers and endocrine surgery—not really genetics. I am in awe of some of the tricks molecular geneticists currently pull off—Dolly the sheep being but one example.

As a surgeon who deals with cancer patients, I appreciate the expanded capability to counsel patients who are at risk for cancer because of family history. I eagerly anticipate the day when we can re-establish normal regulation of cancer cells in a person's body by infecting those cells with working copies of their broken genes. Perhaps the most extraordinary aspect of modern genetic research, however, is the rapidity with which it is advancing.

Current technology allows all your genes to be placed on a small computer chip and analyzed by imaging devices connected to computers. Some time in the next five years, the entire human genome will be sequenced and the genetic patterns which portend a high likelihood of dying from colon cancer, or heart disease, or whatever, will be worked out. It is likely that genetic patterns predicting depression, alcoholism, blonde hair, height, weight at age 45, or even being good at math in the senior year of high school will also be worked out.

It is also likely that these things will be accessible to manipulation. Perhaps you won't have to accept the height you were destined for. There is also the possibility that you will be robbed of your sense of being a unique individual. An even more distinct danger is that society would set out to manage some of the more troublesome aspects of your uniqueness, conceivably in advance of any bad acts that you might commit. In short, the availability of this sort of information presents a real threat to that most basic right of free people—"To be left alone."

In the modern world, where it is difficult to retreat to an uninhabited place and live off the land, I would argue that the right to be left alone must be secured instead by safeguarding the principle of confidentiality. This is not a new issue with genetics. Genetic issues are only the most hair-raising example of how individuality might become naked before the world.

The problem of confidentiality and what it means is an old, old one. As a physician, I swore an oath on the day of my medical school graduation called the "Oath of Hippocrates." It is over 2000 years old. It is not very long and there are a few ordinary clauses about fitting in with your fellow physicians. But it also says "That whatsoever I shall hear or see of the lives of men which is not fitting to be spoken, I will keep inviolably secret."

There are two notions implicit in this oath. First, there are some things, which the distressed person or patient doesn't want spread about—usually because it is something they are not proud of. Secondly, the doctor is there for the good—of that individual. Not the health of society which might be improved if the particular miscreant was exposed. To say this more plainly, confidential information is considered to be worthy of the name because it is the sort of personal information that might be used against us as individuals were it to fall into "the wrong hands." Or, the sort of information which would shame us were it to be publicly known.

In the practice of medicine, obvious examples of confidential information include things like:

1. psychiatric treatment
2. treatment for drug addiction or alcoholism
3. diagnosis of venereal disease
4. HIV status

You can imagine your own examples and what is felt to be confidential information often evolves. People used to be ashamed of having cancer, and there was a fear that it was transmissible, so patients with such a diagnosis could wind up as social outcasts, and the diagnosis was therefore considered confidential information - hush hush. That is much less true today. People are not ashamed about their diagnosis of cancer but they do worry about insurability and employability. However, today, medical information, confidentiality—despite our professional concern and social chatter about this issue, has virtually disappeared.

The main reasons for this are two:

1. the enormous number of people who don't ordinarily swear an Oath of Hippocrates but who are involved in the acquisition of data–for example, people working in labs entering the data into computers–or in the transcription of that data for the medical record.
2. Government and private insurance medical claims data which funnels coded information about medical diagnoses -ICD-9 Codes, and treatments—CPT Codes—into huge computerized information banks.

In the battle against medical fraud, the government (HCFA and the office of the Inspector General) also reserves the right to review the actual medical record to see whether the information in it justifies the code the physician has submitted for payment.

There are often very good reasons to violate the confidentiality of personal medical information. Under Secretary Brown of HCFA would argue that it keeps taxpayers from being defrauded by unsubstantiated medical claims.

Most private insurers including the HMOs would agree. How else do they know that they are paying correctly for the services their members received? Society can benefit by the discovery of practice patterns and bad habits of some physicians or hospitals and either fix them or prevent them from doing further damage. Patients whose medical records are available easily can have them easily available for other doctors for their personal medical benefit.

Insurance companies try to build firewalls between their health insurance databanks and their life insurance databanks. State and federal governments write laws ensuring confidentiality of sensitive information stored in central databanks—such as personal medical information, or malpractice information if you are a doctor. In short, it is still recognized that societal goals in medicine can sometimes be advanced best by maintaining the confidentiality of the sensitive information. Still, we are *routinely* asked to waive even recently legislated rights to confidentiality.

An example for doctors is when they apply for hospital privileges, they are asked to waive their claim of privacy in the practitioner databank which registers malpractice claims and settlements. This bank was setup with the condition of confidentiality. Examples for patients are when they must waive their confidentiality rights in order to have the government or their insurance company pay their medical bills. Examples for people are when they waive their confidentiality rights about their HIV status in order to obtain life insurance.

Common to all of these examples is the argument that you don't have a right to hospital privileges if you are a doctor, medical insurance if you are a patient, or life insurance if you are just a regular citizen. These are not illegitimate arguments.

Still, I don't want to duck my responsibilities as the first panelist tonight or my surgical personality—probably predictable as a future micro array of several different themes on a computer chip in the future. I will make a call. I believe the coming power of genetic information to predict the essence of who we are, the storage capacity and correlative ability of our modern computers, not to mention the vast streams of data input about our every day lives and habits–for example, our credit card purchases, is such a threat to our individuality and right to be "let alone" that it trumps all arguments against the primacy of confidentiality over corporate or social necessity.

This is not at all only a medical information privacy issue. The social and legal concept of confidentiality has already been eroded by the modern demand for data and accountability. It has been corroded further still by the routine practice of asking individuals to waive their confidentiality rights in the very circumstances where these rights are most required for their protection.

Now, in a weakened condition and with insufficient societal concern for its ancient civil virtue, privacy faces its hardest modern test with the imminent arrival of genetic knowledge.

The fruits of this particular tree of genetic knowledge maybe of inestimable value for mankind, if we only take care to strengthen the foundation of our liberties by strengthening privacy and confidentiality.

Do not believe that this can be done by legislation alone.

To paraphrase Samuel Johnson, the great English essayist, human society can grow accustomed to great loss of liberty by small degrees. Legislation which prohibits routine request for a waiver of privacy rights when such rights have specifically been enacted is important, as is forthright abrogation of confidentiality for a greater social good when that good is articulated, and fair, and the confidentiality price is agreed upon.

Most importantly though, is the renewal of a civic culture, which recognizes the bedrock value of privacy and confidentiality to free people, and protect those values from the incursions of profit, order, efficiency, and even safety.

Giles F. Whalen, M.D.
Farmington

50 Years Ago
From *The Connecticut State Medical Journal*
September 1950

Doctors, Patients, and Litigants

WARREN MAXWELL, *Hartford*

The Author. *Attorney, Travelers Insurance Company*

THE subject assigned to me in this series of talks—"Doctors, Patients and Litigants," is so broad as to permit me almost unlimited choice in the selection of the matter to be discussed. And from one standpoint, this freedom is commendable, since, in view of it, I may address myself to those facets of the problem with which I should be familiar. At least I do not find myself in the dilemma encountered by a certain celebrated Senator who once was called upon unexpectedly to talk about a subject of which he was ignorant. Arthur Brisbane told the story many years ago. The Senator, from one of the Eastern States, had for a whole term of the Congress been harried and provoked by a Florida representative to speak publicly in favor of the latter's pet project, a canal across his native State—his so-called "Florida Ship Canal." The Senator knew nothing of the subject, cared less, and refused on numerous occasions to be dragged into the debate. But finding himself one night at a banquet of Floridians, with his Florida friend presiding, he was altogether nonplussed upon being introduced not only as honored guest, but as principal speaker, whose subject would be "The Canal." The white-haired magnificent figure of the celebrated speaker rose slowly from his chair. He carefully wiped his glasses, waited for the applause to subside, and then proceeded to extemporize as follows:

"My friends, I am about to discuss with you a subject which, I know, is close to you all. Indeed, this subject constitutes and has for many years constituted a part and process of your very lives—I am going to talk to you about 'Your Canal'—your alimentary canal. That ancient and most worthy physician Hippocrates once said that man is a digestive tube, open at both ends; and since my esteemed friend, your toastmaster, selects my subject for me, I feel free to pick my own end of the issue, which, in this instance, shall be that which is northernmost, leaving to him, with all of its rights and perquisites, the southernmost end, safe in the knowledge that his keen insight into, and long familiarity with his thesis, will insure it the sympathetic treatment to which it is entitled."

From another standpoint, however, I approach this task with humility, since it requires that, to some extent, I venture into portions of a field my superficial knowledge of which has been acquired haphazardly and only as the need arose. However, I address myself to it with the consoling thought that after all, the most penetrating analysis of English letters came from the pen of a Frenchman, and that a Scotsman, born in Belfast and writing under a British imprimatur, pioneered all modern inquiry into our own American form of Government.

There was a time not too long ago, when the average doctor had little contact with, and perhaps even less interest in, the science of the law as such. The field of his endeavor brought him daily to the familiar environs of a local hospital, to the routine of a busy office, the bedside of a suffering patient, and, less frequently perhaps, into the laboratories of science, but seldom, if ever, into that public

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Reprinted from the *Connecticut State Medical Journal*, September 1950.

Presented at a Symposium on Trauma under the auspices of Yale University School of Medicine, Hartford Hospital, November 2, 1949.

forum, the Court Room, which, after all, is one of the mightiest and most ancient of all laboratories—the laboratory of human rights and duties. But the technologic growth of an era that saw men in a single century, almost in a single lifetime, abandon, as a means of transportation, the pack mule for the jet plane, which saw the howitzers of their grandfathers give way to the atomic fission of their sons, has broadened the ambit of the medical field and has required the men who practice in it to know about and to give consideration to the legal aspects of their patients' personal problems, no less than to the medical aspects of them.

What are those problems, and to what extent is it the doctor's duty to assist in their solution? They are many and various—the problem of the malingerer, of the doctor as confidante, of the doctor as witness, or the doctor as advocate, or of the doctor as impartial observer—that is to say, the doctor as an honest man—which problem, it is obvious, is no problem at all. Then there is the impact upon the legal field of developing psychiatric medicine, a phenomena which, it is equally obvious, is nothing but a problem, at least to many lawyers. Let us consider a few typical situations:

Mrs. Brown, in her middle life period, was a born neurotic. She was involved in a negligible automobile accident, in which she suffered no physical injury sufficient to require the services of a doctor. While pulling out from the curb, her car had been lightly struck by another in the hands of an anxious young man who sought her parking space a trifle prematurely, as he later admitted. A crumpled fender cost $10 to mend, but the lady had been frightened, and $10 could not mend that. She sought the services of a lawyer, who, at first, brought suit for property damage only, but who, becoming increasingly alarmed at his client's rapidly developing symptoms, later amended his case to include claims for damages for all manner of bizarre and unrelated physical sequelae, not the least of which was a hysterical blindness alleged to have developed some two and a half years later, and just before the trial. There was little dispute among the doctors concerning the diagnosis of her condition, but there was considerable dispute as to its cause. It should also appear of record that the automobile accident referred to had been preceded a year or so before by another one in which a brain concussion had been incurred by the good lady but had been left wholly unrecompensed, (and, therefore, promptly healed) for want of somebody to sue. And it should be pointed out that the two and a half years following her automobile accident witnessed the death of a loved one, the low financial state of her husband, much domestic travail, and an episode wherein plaintiff found herself behind the wheel of her car stalled at a railroad crossing just as the gates were being lowered.

On these facts, the doctor who is called upon to assign the cause or causes of his patient's condition, has a considerable duty. To the woman, with her lawsuit ever uppermost in her mind, and the incidents associated with her automobile accident magnified by constant reflection, the cause is irrevocably crystallized and she is probably incapable of a compromising thought on the subject. But how about her doctor, who, as such, owes her the duty of legitimately furthering such of her claims as he can conscientiously confirm? He has several alternatives. He can, if he wishes, and with scientific plausibility, but without personal conviction, under write her claim in its entirety, and if he reflects, (defensively of course), sufficiently long upon the moral debatability of his conduct, the same process which gave the lady her fixation will probably assure his conscience of its requisite absolution. Or he may be willing to compromise in the direction of truth and agree that although other factors obviously play a part in the etiological whole, the fright which accompanied the accident was the precipitating and dominant factor. Or if his professional oath and intellectual honesty still constitute and inform the basis of his conduct, he will characterize the litigated incident and its associated fright as in fact he sees it—a triviality in the long train of events which produced his patient, an invalid, in Court.

Obviously this illustration points up no problem at all. It indicates merely the difference between right and wrong, and the Decalogue has its place in the field of medicine as in any other. It is not intended to point up a problem—it is intended to emphasize and underscore an evil which, thanks be to God, is not a general one in this area, but which is of sufficient proportions, nevertheless, to become a factor in the handling and appraisal of every lawsuit involving personal injury, that is brought today, and there are thousands of these currently pending in the Courts of this State. It is intended as a reflection upon the quality of a minor but, nevertheless, considerable portion of the opinion evidence currently vouchsafed in our Courts as expert. The expert witness operates in a field, a knowledge of whose subject matter is normally acquired only through long training and experience, a field in which the validity of conclusions cannot be reasonably tested by ordinary lay criteria; where one doctor can honestly say "Yes," another, with equal honesty, "No," and a third, with more humility and greater honesty than either, "I don't know;" it is a field whose matter provides opportunity for such diversity of view that no diversity of moral worth should be tolerated in the men who comprise it. You can demonstrate a geometric problem. You cannot, in most instances, demonstrate the ultimate causes of human illness. In this situation the only effective sanction for truth is found where Alexander Pope once found the highest nobility of Creation—in the honest man.

I do not, in this, of course, refuse to the doctor the right of advocacy. I regard it as his duty to further, so far as he legitimately may, all of his patient's interests. Indeed, being human, he is entitled to a reasonable prejudice in favor of his patient. (Let me at this point digress for a moment. Prejudice and its close kinsman enthusiasm are much abused terms. They are as normal attributes of affective consciousness as any human emotion. The lawyer lacking them may analyze an issue, but he cannot impart a conviction. Without them the orator merely states, he does not proclaim a thesis. They are dangerous only when they become substitutes for reason and even love contains a similar vice. They do not warp tile thinking of one who can think straight. An observer can as accurately tell the story of Gettysburg whether he be Northerner or Southerner, if he knows the business of it. It is only when he applauds or deplores the incompetence of Lee that he writes bad history—because Lee was not incompetent. Indeed, every moving utterance known to history was prompted by and achieved immortality to the extent that it was born of an enthusiastic bias—Demosthenes and De corona, Robert Emmett and the defense of personal integrity, Patrick Henry and political freedom, Churchill and the last challenge of a beleaguered and indestructible courage.) So I say, the doctor, like all of humankind, is entitled not only to the right of advocacy, but to that very human attribute, the right to have his likes and dislikes and to assert them.

Doctors whose patients are also litigants, today encounter certain other problems from which their professional ancestors were happily free. How confidential, for instance, is the doctor-patient relationship to be regarded? May he ethically divulge medical data concerning his patient to adversary counsel or to representatives of the insuring companies who, in order to formulate their own appraisals of loss, must know these things? Speaking only from the standpoint of the law, I know of no ethical impediment to such disclosure. Certainly, when on the witness stand there is no such impediment. The doctor who is possessed of relevant and material information, and who expectably will be a witness in his patient's case, may ethically be approached by opposing counsel and so far as the law is concerned as ethically disclose requested relevant data. I am, of course, aware that doctors generally refuse such data in the absence of their patient-litigant's consent, and perhaps on unassailable grounds—but I repeat, I am aware of no legal inhibition of such pre-trial disclosure.

Next, let us consider the doctor as witness. To him, whose mind is essentially the mind of the scientist, the trial of a lawsuit must appear to be a poorly contrived and wholly unscientific means of eliciting truth and of achieving justice. The pure scientist, seeking truth, works with tangible matter and with instruments and knowledge which insure precise and demonstrable results. The surgeon, probing the reasons for the body's dysfunction, has the body to work upon and the perception of his senses and the sum total of his experienced judgment to check and measure his findings. But the law in its search for truth must rely, for the most part, on an analysis not of matter, but of mind. The substances with which it deals are not the isolated and material elements contained in test tubes, but the intangibles of memory, of judgment, of the wills, the interests and the behaviors of the human beings who are the parties and the witnesses to a controverted issue. And it employs for its laboratory a public, not a private forum, and utilizes for its catalytic agent not a chemical designed to accelerate reaction and unerringly to refine out the essence which it seeks, but a dialectic art of inquiry entrusted to experienced but highly interested experts and designed to elicit, by debate, the priceless ingredient of truth.

From a comparative standpoint, how weak and imperfect a means for reconstructing actuality. The plausible liar carries weight. The truthful dolt is dismissed. Honest men differ in their reconstructions of the past. Memories are both good and bad. Opportunities to observe are never similar. Instinctive interest unconsciously but inevitably colors a point of view. (Like the four tourists who once viewed the interior of the Hall of the Abencerrages in the Alhambra, with its vaulted arches, its marbled pillars, its fretted carvings, its beautiful mosaics. What a symphony of color, said the artist! What a balancing of stress, remarked the architect! What a testament to God, said the pietist! What a place to clean up, said the janitor!) An honest temperament, too, may be an emotional and nervous one which wilts before the heat of questioning, while his phlegmatic adversary holds fast to a dishonest premise.

This system of dispensing justice, developed through long centuries of Anglo Saxon experience, despite occasional illogic in some of its results, was characterized by an eminent Jurist of the Common Law as calculated, to approach more closely the truth that is inherent in pure logic than anything except the Summa Thealogica of Thomas Aquinas.

A basic criticism here, of course, is that truth is not always inherent in pure logic, since one may be as logically in error if his premise is wrong as he can be logically correct if his premise is right. It would, for instance, be difficult to detect a flaw in the logic of the simpleton, asked by the psychiatrist why he stood all alone in the corner scratching himself, who replied, "Because I'm the only one in the world who knows where I itch." Our law, however, criticize as we will, is clearly a logical system based upon premises whose validity has stood the test of centuries of time and which has thus come to constitute the most scientific method available to any of us to arrive at the ideal of functional, if not of abstract justice.

Thus, to repeat, our legal system provides for a solemn inquiry into the past, conducted in the presence of twelve all-powerful men and women, presided over by an umpire who is presumptively expert in the knowledge of those immemorial usages and customs which operate under the name of the law of evidence to filter out the wheat from the chaff.

Let us examine one or two factual instances to determine how it works out on occasion. Not too long ago, an Italian man, married, returned to his native land for a visit. He remained away some two years, during which time a boarder in the local homestead succeeded, without benefit of clergy, in moving in and taking over many, if not all of the departed husband's marital responsibilities. The latter's sudden and unheralded reappearance in this country and insistence upon rejoining the family circle proved irksome to the interloper, who awaited him one dark night with a loaded shotgun and let him have both barrels. Of course it was cold-blooded premeditated homicide, and the culprit was arrested, questioned for many hours, and then caused to confess his crime. However, he spoke no English. It was Sunday when they broke him, the regular Court interpreter could not be located, so the services of an Italian police officer, one of his interrogators, were finally enlisted to take down and translate the story. Counsel was later hired by the accused, and counsel was adroit. He, too, was Italian, and knew from long acquaintanceship with him that the police interpreter was a bad tempered and highly emotional individual. He laid careful plans. In New York, at an Italian bookstore, he found a much worn Italian-English dictionary of ancient date. This he had rebound, and then marking the pages, he carefully checked and selected a dozen or more simple sounding but wholly archaic Italian words. The plans for his attack upon the strongest piece of evidence in the State's case were now complete. The trial came on, and in due course the interpreter's testimony concerning the confession was the high point in the prosecution. He was then turned over for cross-examination. This is what happened:

Q. "Officer, you are of Italian birth, are you not?"

A. "Yes sir, I came to this country when I was 18."

Q. "How old are you?"

A. "58."

Q. "You, of course, have a thorough knowledge of both the Italian and the English language?"

A. "I have."

Q. "And can translate from one into the other?"

A. "Yes."

Q. "Well, let us see. (Opening the dictionary.) What is the English equivalent of this word?" (And a simple single syllable Italian word was mentioned.)

The witness, not too bright, stared painfully, brow-wrinkled, at his questioner.

A. "Never heard that word before."

Q. "Never heard that word before? Why it has a very simple meaning. Look at this dictionary." (The dictionary was shown to the witness, who scratched his head but said nothing.)

Q. "Now what does this word mean?"

The witness listened, glared at his interrogator, and began visibly to become unnerved. When he failed at the sixth word, his anger got the better of him completely, and a warning from the Bench was required to calm him down.

Defense counsel's argument to the jury was obvious. Was any panel of honest Americans going to send a man's soul into eternity on the basis of testimony so weak and of a crucial witness so uninformed, so easily aroused and so prone to err as the State's chief witness? The murderer was acquitted.

I must, of course, be fair. The case I cite provides an illustration of the use of the cross-examiner's art to defeat justice. It can also be used to secure it, as a little illustration from Wellman's Art of Cross-Examination will establish:

Many years ago, suit was brought against the New York Central Railroad by an elderly and wealthy old miser living in New York City. Certain personal injuries were claimed to have been suffered by the plaintiff, not the least of which was a badly damaged shoulder, preventing the man, so he claimed, from raising his arm above the level of his shoulder. The celebrated Joseph Choate, representing the Railroad, adjusted his pince-nez as he took the plaintiff over for cross-examination with the words, "Now, Mr. Greene, you say you cannot raise your arm above the level of your shoulder?" A. "That is right." Q. "Very well. Now just to demonstrate to the jury the extent of your unfortunate loss, would you not be good enough to let these gentlemen of the panel see how high you were able to raise it before your accident."

The witness's reaction to the cross-examiner's question came too late, as he, with arm held up to high Heaven, unthinkingly repudiated his own case. Quite abruptly, he retired with his counsel from the environs of the Court Room to cogitate upon the fallibilities of fraud and the perceptiveness of certain counsel to smoke it out.

What, however, of the doctor in Court—his attitude toward counsel, particularly toward adversary counsel, toward the Judge, that person, who unlike Lord Bacon, (who only aspired to the goal) is the presumptive repository of all knowledge, but who, in some instances, if the truth were known, and if present company is excepted, could provide prolific and provocative case histories in any inquiry into the perversities of the human animal? I once knew one of them who fined a man for not having a windshield wiper on a car that didn't have a windshield. I knew another who refused, during the War, to permit a young man to change his obviously Teutonic name, and followed his refusal, after a preachment on the democratic ideal of racial equality, with the question— "Why not do as General Eisenhower does?" To which the young man replied— "That's what I'm doing, Your Honor—he used to spell it 'houer.'" How about the doctor's attitude in direct and in cross-examination? These things in large part, I am afraid, are determined by the personality of the doctor himself than by adherence to a code of rules with the wisdom of which he may have little sympathy. And there are many kinds of doctors.

To all of them, I suppose, the very necessity of appearing at Court is the most burdensome duty arising from the medico-legal relationship. Some doctors indeed condition their acceptance of a case upon release from any possible Court involvement. The greater number, perhaps recognize occasional appearance on the witness stand as a time consuming and, to them unfruitful, but, nevertheless, necessary responsibility, inseparable from the voluntary acceptance as a patient of one whose injuries are matters of litigation. And there are some few stalwarts of the profession whose natures invite the challenge of the rostrum, who huff and who puff over a summons to Court, but who, if the truth were known, secretly relish the anticipated debate. This manner of man is a type unto himself. He takes the witness chair, states his views with clarity and finality, polishes them off with a flourish of professional contempt for Court, counsel and all of their works and pomps, and then, as cross-examining counsel slowly rises to dispute his postulates, turns a cold and condescending eye upon him or upon anyone who would presume to question them. The most painful words this type of witness hears are the familiar ones— "No questions."

Now a few suggestions. Whatever the provocation, neither the doctor, nor any witness, should lose his temper. It is strange but usually true that the witness who permits himself to become recalcitrant, argumentative and overheated, loses jury sympathy in proportion as he does so, and although the doctor doesn't need jury sympathy—indeed would not take any part of it for love or money—his patient would probably like to have all of it he can lay his hands on, particularly if he has a weak case.

Only this year an eminent doctor, testifying on behalf of an injured client of mine, and cautioned to accord opposing counsel the same courtesy and civility accorded me, destroyed the entire impact of what should have been weighty medical evidence by being carefully led into a heated debate over a triviality. He, as well as other physicians, had furnished me with typed reports of the patient's history and of their respective findings. Cross-examining counsel asked for, and received, these reports, and were permitted to study them before interrogating the witness, who, a busy specialist, and obviously to save time in his dictation, had utilized another attending doctor's exact language in relating the medical history of the case. Charged by counsel with this heinous plagiarism, the irritated witness, instead of conceding the obvious and passing on to something else, categorically denied the similarity of the language, leaving himself in a fine fix and me with the uninviting task of demonstrating to a jury of 12 hard headed men and women how 150 words got themselves into the exact juxtaposition of 150 similar words by coincidence.

Another point. Don't engage cross-examining counsel in debate. If his question cannot be categorically answered, say so. If a flat "Yes" or "No" requires explanation in order to be truthful, say so. Most Courts will permit you this freedom, and in case you are denied it, counsel on your side of the case is presumptively alert to the situation and will give you opportunity to tell the completed story in redirect examination.

Which brings to mind the fact that the language employed by the medical witness is itself one of the most important considerations in evaluating the strength of any medical testimony. To be sure, the vocabulary of the law alone is replete with cryptic phraseology frequently beyond ordinary understanding. Mingle this, as we sometimes must, with the scientific terminology employed by the medical man, and it is not difficult to appreciate the basis for one of the most frequently stated jury criticisms. It is not difficult to describe a person's injuries or illnesses and their causes and prognoses in lay language, but it is not done as generally as is desirable. It may, of course, be occasionally true that the medical witness, defending an untenable hypothesis in the face of a particularly pressing and intelligent cross-examination, will employ the terminology of his profession as a refuge rather than as an elucidation. I recall a celebrated old doctor, a frequent medical witness many years ago, once caught in an inconsistency—he had testified that the most effective means of diagnosing arthritis was an x-ray study, and now was faced with the stenographic transcript of testimony he had given some years before in another case, that x-ray evidence was wholly inconclusive on the presence of arthritis—and who came up with the gem that he was wiser today than he was 10 years ago, and, discounting the materiality of the issue in any event, added—"Arthritis isn't arthritis at all; it is merely a name for a developmental stage in the process of growing old."

In further connection with the language doctors sometimes use in Court, I am sure those among you who are experienced are aware of the complete ineptness and utter futility of any attempt by the average lawyer to intelligently engage the doctor in language of his own medium. There is a whole literature devoted to hypertension, but about all your average lawyer knows of it is that B P are its initials, and that it comes in two measurements, the names of which he doesn't immediately recall. Therein lies a weapon wherewith the over-pressed professional witness can cut his examiner down to size.

As Edward Williams points out in his splendid work on "The Doctor in Court," it is not difficult to shift the burden of medical knowledge to the lawyer who attempts to use medical terms. Thus, quoting Dr. Williams, "if he seeks to question the thoroughness of the doctor's physical examination of the patient by asking— 'Did you examine his reflexes?'—the doctor is always entitled to insist that he define his terms and to inquire— 'what do you mean by reflexes?' To be sure, the witness is there to answer, not to ask questions, but he is within his rights in requiring that they be rendered intelligible, if an intelligible answer is desired. There are many kinds, types, conditions and degrees of reflexes in the human body, so that it is pertinent for any medical man to require his questioner to identify the reflex and to describe the test he had in mind." If you do it, he will probably pass on to a subject in which he is better informed.

And don't forget to give as well as you receive—like the young practitioner who had first ventured into the field of veterinary medicine. "Doctor," said the lawyer, attempting to belittle his qualifications, "Were you not originally a veterinary?" "Yes, that is true, but I gave the thing up for lack of business. In fact, I came upon my first sick ass when you started your cross-examination."

And so, let me close this talk on a note of consolation to lawyers and Judges, as well as to doctors. Our medico-legal problems, like all problems, ultimately find long-run adjustment. Life and a wise Providence provides compensation in all things. Your profession itself teaches that. The weakened heart builds up its own compensating musculature. Pus is a sign of bacterial attack, but it is also a signal of Nature's dispute. Henry George points out that the tramp came with the locomotive, and the century which produced the cruelest Borgia gave us also a St. Francis of Assisi.

And should fate, at some future time assign to me the task of cross-examining any of you my hearers, may I indulge the hope that these random thoughts will have fallen before you as the Pearls of Matthew —not returned a hundred fold to me as the Bread of Ecclesiastes.

100 Years Ago
From the Proceedings of the Connecticut State Medical Society
1900

State Sanatoria for Tuberculous Patients.

CHAS. D. ALTON, M. D., *Hartford*

The economic consideration of the value of a human life increasing or decreasing the wealth of a community will form the view point of this contribution. How much is an adult human life worth, and how can we best conserve the interests of the State and, with equal benefit, of each community in the state, by saving to the commonwealth the productive value of that life?

It may not be known generally to the public, but to every medical man at all conversant with state and city mortality reports it has long and too well been a recognized fact that tuberculosis is the most prevalent disease of modern times and the foremost cause of death. So well recognized is this fact that individuals and organizations, both at home and abroad, have for years been urging methods for the prevention, arrest and even cure of this great wealth and life destroyer. Others have already taken the initiative, and whatever Connecticut or communities in Connecticut may conclude to do, they will be but following in the footsteps of pioneers who have tested the methods, solved many problems, and declared the results. How long our action shall be delayed and for how long these benefits shall be denied to us depends, I think I may say without fear of contradiction, upon the interest and earnestness of the medical profession.

It is said that we of the United States are far behind the countries of Europe in the systematic care of tuberculosis patients. On the continent of Europe are one hundred Sanatoria for patients of this class; of these Russia has eleven, France twenty-one, and Germany forty-three, while England, Scotland and Ireland have twenty-six. In our own country are about thirty-five, nearly all of which are under private management, very few being public institutions. Of late much consideration has been given to institutions freely open to the poor, not only in view of the personal needs of such individuals, but to free the more densely populated centers from the danger of infection, and third, to restore invalid lives to their productive value and prevent their becoming a prolonged charge upon charity or the state; for it has been proved by conclusive demonstration that while a gratifying majority of incipient cases are by systematic hygienic regime restored to their vocation, a considerable percentage of those in advanced stages are also restored for many years of usefulness. Uncared for these impaired lives are a menace to the health and happiness of thousands of healthy lives. Rob them of the fruit of their toil and at last, even if not a cost to the State, you withdraw from the wealth of the community just so much productive or creative force.

If it were from cholera or the plague or epidemics of small-pox, we would act with a determination, driven desperate by alarm, but having tolerated from tuberculosis this perpetual endemic out-classing by its victims over and over again any plague known to us, we have admitted our inability, through lack of knowledge, to cope with it until familiarity and apathy have bred contempt. But now that the way seems opened not by the trial of some vaunted cure, but by following a rational systematic method based upon a clearer knowledge of cause, and its accuracy already proved by results, it becomes this Medical Society to make known to our fellow-citizens of the State the present knowledge upon this vital question and to take the initiative in such steps toward education as shall in time prove the beneficence of our action.

What are some of the existing conditions, as shown by statistics, in state, city or country, calling for a serious consideration of this question?

Reprinted from the *Proceedings of the Connecticut State Medical Society*, One hundred Eigth Annual Convention, New Haven, Connecticut, May 23–24, 1900.

The annual report of our State Board of Health shows an average annual death loss during the past ten years of over fifteen thousand lives from tuberculosis, while the total average death loss from all infectious or contagious diseases is only eleven thousand one hundred. And yet the State and local Health Boards were formed largely for the purpose of preventing loss from these latter causes and it is only of recent years that tuberculosis has fallen to their consideration, and only now as a matter of serious interest without definite means allowed them of prevention. It is worthy of note that of these fifteen hundred deaths from tuberculosis nearly twelve hundred occurred between the ages of twenty and sixty, the productive years, contributing the greatest value to the community; while of the eleven hundred losses from contagious and infectious diseases a very large percentage were under ten years of age, the naturally dependent, non-productive period. It would seem that we tax ourselves heavily to protect largely the nonproductive age that we may lose these valuable lives, uncared for, when they should, in their productive period, add to our material wealth.

We know that, according to custom, and already recognizing the benefits of climatic and institutional treatment, we send many of our patients to health resorts and they die beyond the limits of the State. These departures are most frequently advanced cases, many of which could have been arrested, if not cured, could they have had early treatment at sanatoria within the State. It would seem therefore that the Board of Health's estimate of twelve hundred adult deaths could accurately be increased to nearly or quite-fifteen hundred deaths annually of Connecticut citizens from this cause alone. And the value of a human adult life is estimated at $1000. A total loss to the state of Connecticut of one and a half millions of dollars a year.

One authority estimates that tuberculosis kills 152,000 people in the United States each year, 75 per cent. of whom are of the laboring class. In the late war the loss was 6300 lives from all causes.

The following statements are grouped from a set of papers on tuberculosis presented at the meeting of the American Medical Association in 1899 by able writers.

Of the 75,000,000 people in our land to-day ten millions or more will die of tuberculosis unless we develop methods for its prevention. The general results of post-mortems show that an average of from two-fifths to one-half of all persons dying from whatever cause, give evidence of tubercular infection of the lungs.... Biggs demonstrated characteristic lesions in the lungs alone of 60 per cent. of his post-mortems.... Grawitz found tuberculosis in the lungs of one hundred and fifty-two out of two hundred and twenty-one patients, being nearly 70 per cent. of all infections. ... It is estimated that a consumptive expectorates at times as many as seventy millions of the bacilli in twenty-four hours. ... The spread of tuberculosis by means of sputum and fine droplets expelled during coughing has been exhaustively investigated and proven by Flugge of Breslau.

Ferguson says: From a pathologic point of view tuberculosis is the most loathsome disease we have; from the sanitary point it is the most widely scattered, and furthermore, it is the disease that carries off more than any other. ... Its infection is carried about in innumerable ways, by our household pets, birds, cats, dogs; the paper money we carry in our pockets and moisten with our fingers; the dried sputum transferred from street or car by trailing dresses, the towels in public lavatories, the books of a circulating library, the cup of the drinking fountain. It involves all the nations of the earth, every organ and tissue of the body, it pays no respect to person or sex.

Dr. Evans of Chicago says: 1. Tuberculosis is the most widespread of all diseases. 2. It is the most costly of, all diseases. 3. It is the most important economic problem that confronts the American people. 4. Tuberculosis is, relatively, gaining in frequency. ...

In New York City, according to Biggs and Prudden, there are, it is safe to say, 20,000 people walking its streets each day affected by tuberculosis and carrying the possibility of infection to the other people of the city. ... In Chicago one-tenth of the mortality is from tuberculosis. ... There is one death from tuberculosis to 8.4 deaths from all causes. ... According to German statistics, tuberculosis kills thirty times more people than small-pox and scarlet fever combined, sixteen times more than typhoid fever, eight times more than diphtheria, and four and one-half times as many as all these diseases together.

During the past fifteen years there has been an apparent decrease in the annual mortality from tuberculosis. Some authors declare, however, that this slight improvement is not in proportion to the decreased loss from all diseases. In Philadelphia, for instance, while there has been a marked decrease in the percentage of tuberculosis for each 100,000 inhabitants, there has been no material decrease as compared with the death-rate from all diseases.

If this improvement is actual, it is undoubtedly due to our increased intelligence as to the cause of the disease and the conditions that foster and perpetuate it, the recognition that its fatality increases with density of population and that separation, isolation, sunlight, fresh air and good food give the greatest assurance of cure.

We have seen that a large percentage of these cases are among those working for the lowest wages and consequently amid the poorest sanitary conditions; going further we find the mortality rises as the tenement houses become more crowded. This leads us easily to see that the opposite conditions, separation, sanitation, hygiene, are the essential steps toward the reduction of this alarming death-rate.

The results of Hospital or Sanatorium treatment of tuberculosis show what has been and what may be accomplished.

We have long since come to accept the contagiousness of tuberculosis, and even before the full acceptance of that theory we recognized the curative value of altitude, sunlight and pure air. Acting upon this recognition and appreciating the added value of separation, restricted hygiene and generous diet under the discipline of systematic direction, many came to realize that few homes and no tenement houses offered opportunities for cure as compared with elevated health homes removed from city air and unsanitary conditions. The result was the isolated camp in the mountain forest or the small private resort, then came the sanatorium both private and semi-public and now finally, after all these experimental steps have been fully tested, we have the completely equipped, scientifically conducted hospital owned and controlled and operated by the state, not for the benefit of any privileged class nor solely for the patients themselves, but to preserve to the state the lives that represent its wealth.

The very recent work on tuberculosis by Dr. Knopf gives accurate and interesting details of sanatoria both in Europe and America, and from its pages we learn that to the United States belongs the credit of having erected the first sanatorium for consumptives among the poorer classes, where the weekly charge of five dollars only in part covers the cost of care. This is the Adirondack Cottage Sanatorium, founded by Dr. Trudeau.

This Sanatorium has now some eighteen separate cottages and can accommodate nearly one hundred patients. From a recent report by Dr. Baldwin we learn that during the past fifteen years it has cared for one thousand two hundred patients, three-fourths of whom were advanced cases. Of the whole number 23 per cent. were discharged cured; 56 per cent. were discharged with the disease arrested; 19 per cent. were discharged with the disease stationary and 2 per cent. died at the institution. From the results here shown we must realize that all patients discharged from such an institution act as educators to prevent the spread of tuberculosis and thus indirectly prove of signal benefit to the community.

From Dr. Stubbert's report of the Loomis Sanatorium at Liberty, New York, we learn that "During the past six months 23 per cent. had lost their bacilli. During the first year 13 per cent. of the patients discharged were apparently cured, while during the past six months 23 per cent. of those discharged were apparently cured, and 70 per cent. Of those discharged were either cured, had their disease arrested or were so much improved as to be able to return to their work." Only those in the early stages of the disease are received, and the charges are from seven dollars to ten dollars per week. It has a city branch where incurable cases are entertained.

Not pausing to mention the large resorts of Germany and passing by a number of small homes for consumptives in America, we come to the institution most worthy of our study as a hospital furnished and managed by the s*tate, the "Massachusetts State Hospital for Consumptives and Tuberculosis Patients," which as Dr. Knopf says "marks an era in the study of modern phthisio-therapy. It is the first state in this country to take care of its cunsumptive poor." The Act of the Massachusetts Legislature was approved, June 5th, 1895. It determined the appointment of a board of five trustees. The trustees had authority to purchase on behalf of the state the necessary property and cause to be erected a hospital to accommodate not less than two hundred patients, at a cost not to exceed one hundred and fifty thousand dollars. The hospital was built at Rutland, in the hills of Worcester County, one thousand six hundred feet above the sea. Its two hundred beds were soon filled. The weekly charges are paid by individuals or their friends, by the towns m which they have residence, or, in the discretion of the trustees, from the treasury of the commonwealth. The hospital was opened October 1, 1898.

The first year's report has been presented by Dr. Bowditch of Boston. There were treated some two hundred and twelve cases of all degrees. Of these 30.97 per cent. were discharged, after an average stay of four months, as "arrested," or as many authorities would say "cured," 46.10 per cent. were discharged "improved" or "much improved" and 21.23 per cent. are set down as "not improved." The fact is shown that of the thirty-five "arrested" cases, twenty-seven were in the beginning of the disease, conclusively proving the value of early diagnosis and prompt treatment.

It would be of great interest to pursue this subject further and see the benefits already shown through years of experience in the hospital treatment of tuberculosis both at home and abroad, but the results all tend to the same end, the greatly increased number of lives saved. Approximately 25 per cent. of cases cured, 50 per cent. of cases so far improved as to be safely returned to their vocations.

Success has, in a limited measure, crowned the efforts of New York state physicians and sanitarians by securing from the legislature an appropriation for a state hospital for incipient cases, not so large an appropriation as desired, but they have made a beginning.

With examples on either side of us, it would seem that the members of this Society, for it devolves upon us, ought not to delay in definite concerted action. It is known to us physicians, not to people generally, that treatment at home, depending upon the intelligent execution of our directions regarding diet and hygiene, is not satisfactory. We strive for success only to reap failure and that largely because of ignorance and indifference. I take it that our minds are one in believing that for the purpose of cure the utmost intelligence and obedience must be exercised or the patient must be entirely subject to a line of discipline that experience has proved the best and, for more certain results, his life must be lived apart from such artificial conditions as contribute to his state and in the midst of such natural conditions as contribute to his cure.

I grant that much can be done by education in the way of prevention, by public talks, by clubs for the discussion of tuberculosis, by constant instruction between physician and patient, and all this should be done, but the great education of the masses will begin when the "cured" and "improved" return from the sanatoria and spread among their friends the knowledge of what constitutes sanitary cleanliness.

The hills of Connecticut offer many a fair site for such an establishment as Massachusetts has founded. I could lead you to many an elevated plateau of one thousand feet, or sunny hillside of greater height, sheltered by a wooded hill, exposed to a southern sun, not inconvenient of access, with porous soil and supplied with pure water. Such places we have in our midst—there is no lack, the only thing lacking, the as yet untried thing in this cause, is the will of the people.

My own thought is that, First, each of the large cities should have its own hospital for chronic patients, to which should be transferred those cases already cared for in almshouses and in the wards of city hospitals, and to which should be committed all patients with advanced tuberculosis, falling upon the care of the city or able to contribute the per capita cost of their maintenance.

Second, a State institution should be established for the care of such cases as give reasonable promise of cure or arrest, where patients are at their own charge or at the charge of the town in which they hold a legal residence.

Either now or later this movement must begin, first by education, by watchfulness on the part of health boards, instruction in crowded districts (especially in tenement houses where only a little over one per cent. of the consumptives recover) and the establishment of hospitals near cities.

But in time the sanatorium for incipient tuberculosis patients must come. We know its needs; why delay? It is confessing ignorance not to know. It is culpable to know and not to act.

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FROM THE EDITOR'S DESK

Decorum, and The Lost Art of Quieting Down

There was a time when people were expected to be quiet around a hospital, inside and out. There were street signs announcing the hospital zone. Anyone driving a car with muffler trouble, by plan or ill-repair, usually got a frown or a glare from people near a hospital as he drove by. "Doesn't he know this is a hospital zone. There are sick people here."

Even as far back as 1895, the founders of one of our Connecticut hospitals (Wm. W. Backus) set down rules for patients and visitors to maintain decorum: "No ardent spirits or other stimulating drinks shall be brought into the hospital by patients or their friends. There shall be no loud talking, or profane or vulgar language, and no unnecessary noise or disturbance in the building or on the grounds. No patient shall smoke tobacco in the hospital. Before lying on their beds patients must take off their boots and shoes and turn down the outer spread. Spitting on the floor or other practices inconsistent with neatness must be avoided."

That was in the Victorian era, but modern culture seems bent on eliminating all the taboos and fussiness, and the bent shows. Now there are car stereos booming so loud in the peri-hospital streets that they cause reverberations in the adjacent vehicles and thunder into the open windows where patients seek healing and hospital staff presumably concentrate on helping the healing process. I say presumably because loud verbal exchanges among hospital personnel, even some doctors, unrelated to the patients or the work at hand, are not rare. They accompany the high fives for the winner of the football pool and anchor the discussion about the NBA events of the previous day. Noise pollution is not just a threat to hearing; it is a threat to civility and concentration.

I was reminded recently about concentration and the value of its preservation among professionals as I watched the British Open on television. One of the contending golfers was on the tee, took a practice swing and positioned himself over the ball. Just then, a noise that was not audible to the TV viewer must have been heard by the athlete, perhaps emanating from the nearby crowd of supportive fans. As he stepped away with a look of exasperation, the announcer said, "Someone else forgot to shut off his cell phone." The message, of course, was that we should all be aware of the supreme concentration it takes to execute an effective golf swing, even when one has been doing it uninterrupted since childhood, as most of the professional golfers have, and we should mind our manners when in the Presence. I considered myself appropriately warned if I should ever go in person to seek improvement in my game by observing real professionals at their craft.

This observation brought out of the memory bank an episode from over thirty years ago. I was shopping for a piece of jewelry at a store that stood on the site now occupied by the Hartford Civic Center. As I entered the store I saw a young couple, the male half of which was physically imposing, talking loudly and forcefully with the watch repairman over the protective glass of his neat little booth. He was unhappy with the condition of a watch that had been serviced and was verbally punishing the only reponsible person in view. As the decibel level rose, my friend, Carl, the owner, appeared out of the back room. He drew the unhappy couple away from the watch repairman's domain, heard them out, made amends for any failings by the store, assured them that it would all be made right, and saw them to the door. He then went over to calm and comfort his skilled employee before turning to me. "Doctor, do you realize that I pay this man fifty dollars an hour; after this he won't be worth anything for the rest of the day." It was 10:00 A.M. The lesson I was learning early in my surgical practice was that people who are highly skilled, doing meticulous work requiring lots of concentration need to be protected, whenever possible, from gratuitous noise, distraction and emotionally charged intrusion.

This leads me to construct a literary composite of some observations gleaned from a presence in surgical operating rooms of late. Shortly after the surgical procedure is underway, with the patient having received local anesthesia and sedation, there is a sudden, Thunk , followed by a quick second and third-Thunk, Thunk. The surgeon's head pops up. It's the room circulator at the addressograph stamping out the patient demographics on all the paperwork. O.K., back to work. A little more dissection and a phone rings on the wall behind the anesthesia machine. It was installed so that anesthesia would have effective two-way communication in this high-tech, high-risk milieu. The caller, from the central desk outside, is advising the anesthesia person that the stat potassium drawn just before surgery is 4.2. Pretty normal. Now the circulator returns from a break and its pick up, clean up, fix up time. Heavy steel doors slam a few times, the head pops up, a glare, then, "Sorry doctor; I didn't think it would bother you. Most surgeons don't seem to mind."

(continued on next page)

Next comes the Madison Square Garden special. This is a series of two-and three-pointers as all the empty vials are lofted into a giant barrel in the corner; Chunk, Clack, Splat, Chunk. Twelve points. No words exchanged. A beeper joins in with a new piercing sound. Is it an emergency? No. Someone in another room needs an assistant on an upcoming case. On and on. Clanging and beepers and metal buckets and personnel in and out.

When the only drugs were digitalis and mercuhydrine and the only operations were for open fractures and appendicitis there was much attention to peace and quiet around the sick and their doctors. Now the sick are much sicker, the drugs are more numerous and the surgeries more complex and meticulous. Maybe it's time to recreate the medical decorum of the past. What's good for the professional golfer might even be good for the professional doctor—and the patient.

H. David Crombie
Editor

MARK YOUR CALENDAR

Connecticut State Medical Society
Semi-Annual Meeting—House of Delegates

8 November 2000

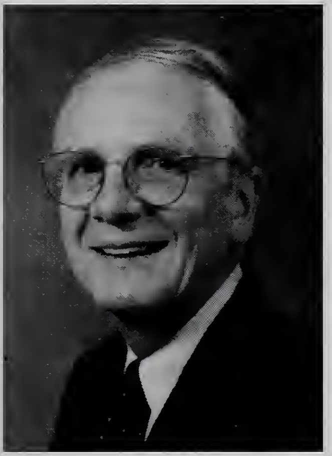
11:30 A.M.—Registration and Luncheon

12:30 P.M.—Call to Order

Ramada Inn, 275 Research Parkway, Meriden

Plan Now to Save the Date

The Federation of Connecticut Physicians—Colleagues, and Partners Working in Collaboration



Does membership in a medical organization serve the needs of physicians? Should physicians join a medical society for protection for our patients and ourselves? Do medical associations protect and serve their members? These are provocative questions to ask at a time when the House of Medicine is under full-scale assault.

The American Medical Association (AMA) has been looking at these very questions. In 1994, a 200-member Consortium Team and a 30-member Project Team representing all facets of organized medicine were ordered by the AMA House of Delegates to do a careful analysis of the actions and interactions among medical societies, academies and associations. Four years later, the final report revealed that the majority of medical organizations are, unknowingly, not working together for the common good of physicians or patients.

- The collective voice of medicine is being fragmented by competition and poor communication.
- There is unnecessary overlapping of functions and services.
- These redundant services are causing increasing financial hardship for members.
- There is a tendency for individual organizations to exhibit selfish and competitive behaviors.

There are two unfortunate consequences of these behaviors: organized medicine is too self-preoccupied to fulfill its role of patient advocacy and there is a disturbing trend of decreasing membership. To make matters worse, studies show that poor communication between physicians exacerbates professional stress and affects the quality of care rendered to patients.

Some physicians would take the position that we could seek sanctuary in our own professional and personal lives —be oblivious to the debate about health care legislation, scope of practice, and quality of care issues—retreat into our own private cave with the illusion of safety and security—pretend that our noble profession is sacrosanct and protected against any harm from outside competing interests. Thankfully, there are not many physicians who can sit idly by while their colleagues are being driven to distraction, patients are driven to despair, and the profession to desperation. The plain fact is, that there is power and authority in effective professional organizations

The challenge for organized medicine in Connecticut is how to improve trust, communication, and collegiality between doctors. How do we go about creating a federation of Connecticut physicians with greater public trust? How will we improve our solidarity and remove the parochial barriers to achieve a vision of professional cooperation?

We need to "focus on the future and stop protecting the past"—collectively prepare ourselves for "the rapid changes in the practice and politics of medicine." We must forget the past attempts to create unity—organize the first "Connecticut All Specialty Society Physicians Conference." We will have to find ways to collaborate—jointly define quality of care, standards of care and practice guidelines for Connecticut. We need to start the process of producing a change in physician and organizational thinking— invite specialty societies to be represented at the House of Delegates and continue the practice of encouraging county society officers to attend Council meetings. We have to start a dialogue that is long overdue—discover ways to pool our resources, expand membership and find the path to improved mutual trust and respect. It is time we got started.

H. David Crombie, M.D.
Editor

Donald D. Timmerman, M.D.
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Seminar of Interest

The Connecticut State Medical Society cordially invites you to a
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REGISTRATION

Please register me for the Connecticut State Medical Society's "Smart Women Finish Rich™" seminar to be held on Tuesday, October 3, 2000, 8:30 - 10:00 a.m., at the Radisson Hotel in Cromwell, Connecticut.

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REFLECTIONS ON MEDICINE

$E=h\nu=pc$ (etc.)

ROBERT U. MASSEY, M.D.

LAST year I gave a talk about Nobel Prize-winning physicians that included some comments about Alexis Carrel. I recounted briefly the story he told in *The Voyage to Lourdes*, a manuscript published after his death. As a young surgeon he had volunteered to look after pilgrims on their train journey to Lourdes, including a young woman in the last stages of tuberculous peritonitis who was his special concern. Her diagnosis had been confirmed by a prominent Bordeaux surgeon; Carrel (his name was Lerrac in his book) accurately described the doughy masses palpable through her thin abdominal wall and her edematous legs. At Lourdes he followed her to the Grotto; the waters were poured upon her. Hours later, expecting to find her dead, he saw that she was entirely cured. Examination of her chest and abdomen revealed no signs of her disease.

One member of the audience observed that Carrel's "miracle" could easily be explained by quantum theory, the uncertainty principle, acausality, and all that!

It has been just 100 years since Max Planck first asserted that energy in a vibrating system exists in discrete steps, jumping from one value to another in *quanta* of energy. In 1905 Einstein applied the quantum theory to light, the quanta, of course, being photons. In a recent issue of *Science* celebrating the 100th anniversary of quantum mechanics, the authors write:

> Quantum mechanics has provided a quantitative theory of matter. We now understand essentially every detail of atomic structure; the Periodic Table has a simple and natural explanation; and the vast arrays of spectral data fit into an elegant theoretical framework. Quantum theory permits the quantitative understanding of molecules, of solids and liquids, and of conductors and semiconductors.

Niels Bohr applied quantum theory to atomic structure in 1913—we all learned that in high-school chemistry. In the three years between 1925 and 1928 in an unprecedented explosion of scientific activity the quantum revolution was essentially completed. It had been wrapped up by a bunch of brilliant physicists in their early 20s—Wolfgang Pauli, Werner Heisenberg, Enrico Fermi, Paul Dirac, all 25 or younger; only Erwin Schrödinger, Planck's successor, was older, a late-bloomer at 36! By 1924, Einstein, 45, was over the hill; he had no further interest in quantum theory, in fact, no longer believed it!

Like many, I suppose, I have been amazed by quantum physics since high-school days, but have never understood it. I don't even understand lasers, one of its practical applications, developed by Theodore Maiman in 1960. I can define Heisenberg's uncertainty principle—that you can't know the position of a particle and its speed at the same time—and always thought it elementary, something I should have thought of myself. But when Stephen Hawking writes that, since Heisenberg, we know that all particles in the universe exist only in a quantum state, "a combination of position and velocity," I know I am lost.

A friend, a laboratory pathologist, commented to me, perhaps a decade or so ago, that we have completed the entire map of molecular biology; it's only a matter now of filling in the blanks, no surprises left.

But we'll not know what life is, according to Erwin Schrödinger, even after we have assembled the Grand Unifying Theory, the GUT, for which physicists strive. A Theory of Everything still seems remote. Hawking noted that in 1928 Max Born, an early quantum physicist, told some visitors at Göttingen University, "Physics, as we know it, will be over in six months." In 1988 Hawking wrote that everything should be wrapped up by the year 2000; physicists, especially cosmologists, would then be out of work! Apparently the remaining problem is gravity. Three of the four forces, electromagnetism, the weak force, and the strong force, fit neatly into quantum physics; gravity remains the outsider—the weakest of the four, yet it is the one that binds the universe together!

Schrödinger wrote that quantum theory also leaves "untouched the unIdirectional flow of time." He added, "...we may, or so I believe, assert that physical theory in its present stage strongly suggests the indestructibility of Mind by Time."

Lewis Thomas, as he so often does, says it all much better than ever I could myself: "Physics, deep and beautiful physics, can be spoken only in pure, unaccented mathematics, and no other language exists for expressing its meaning, not yet, anyway. Lacking the language, I concede that it is none of my business, and I am giving up on it."

ROBERT U. MASSEY, M.D., Professor Emeritus, Division of Humanistic Studies, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington.

This Month's Reading in Review

TIMOTHY B. NORBECK

Wrong man!

When Michigan Representative (and co-author of HR 2723-Norwood/Dingell patients' rights legislation) John Dingell came out of ankle surgery on August 4th, he was very angry.... He said his HMO had tried to force him to have the surgery-involving a bone fusion and bone grafts-as an outpatient.... During the surgery, he said, the insurer relented and decided that he could be admitted to the hospital as his physician had recommended.

"This has confirmed my commitment to the Patient Bill of Rights," Dingell, 71, said at Bethesda Naval Hospital.... "I now have personal experience. I've talked with five doctors, and they're all infuriated," Dingell said. "If they can kick me around like this; imagine what happens to a guy who has no connections."

Detroit News and *USA Today* (7 August 2000)

"Senior executives at Columbus, Ohio-based Doctors Hospital are putting themselves on the line to improve customer service-literally. President Denny Freudeman is one of nine executives, including seven vice presidents and the director of administrative services, who will rotate one-week, 24-hour shifts to take calls from patients, families and hospital staff of Doctors' customer service hotline. The hotline service, which went into effect Tuesday, is one of Freudeman's efforts to improve employee and customer relations at the hospital. Patients, families and staff can dial HELP within the hospital or 297-HELP outside the facility, and a hospital operator will immediately page the executive on call."

Columbus (Ohio) *Dispatch* (3 August 2000)

Editor's Note: Wouldn't this be a good idea for HMO executives?

"The list of problems and lawsuits simply goes on and on, and always in the middle of it you find an HMO, a private insurer, doing battle with the doctor or the hospital who is simply trying to take care of sick people. If any system cried out for reform and streamlining, this is it."

From a lead editorial in the *Meriden Record-Journal* entitled "HMO'd off!" and pleading for managed care reform. (10 July 2000)

Medical savings accounts are an important means to "provide low-cost coverage to those unable to afford health insurance premiums, and they would guarantee that patients, not insurance companies or HMOs, have control over health care." According to the U.S. Treasury Department, more than 30% of the 100,000 people who have purchased an MSA policy since January 1997 were previously uninsured. "I advocate making MSAs more affordable by lowering deductibles to $1,000 from $2,000 for individuals, and to $2,000 from $3,000 for families." (See article #1 on accompanying pages.)

New Jersey U.S. Senator Robert Torricelli, chair of the Democratic Senatorial Campaign Committee. *Wall Street Journal* (7 August 2000)

Hold the Beef!

Researchers at Nottingham University may have discovered how to increase the chances of giving birth to a baby girl-become a vegetarian.... According to a 1998 survey of 6,000 pregnant British women, the ratio of male to female babies born to vegetarian mothers was 85 to 100, compared to the national average of 106 boys to every 100 girls.... While researchers said the results were statistically significant, critics dismissed the finding as a "fluke."

BBC News (7 August 2000)

A recent Washington Post, Kaiser Family Foundation and Harvard School of Public Health poll found that health care has emerged as the top voting issue for 44 percent of all voters, more than the economy, crime, jobs or education.

Washington Post (August 1, 2000)

Only In America

A Fort Myers, FL, woman loved to ride her motorcycle. She didn't like helmets though, and worked hard to get the state's mandatory helmet law repealed. It was, as of last month. But before the month was out, she failed to stop at a stop sign and hit another motorist, throwing her from her bike. A Florida Highway Patrol investigator said alcohol was a factor in the accident, and that she probably would have survived had she been wearing a helmet.

This is true, based on an AP story (7 August 2000)

TIMOTHY B. NORBECK, Executive Director, Connecticut State Medical Society.

The Office of the Inspector General Releases Draft Compliance Guidance Document for Individual and Small Group Physician Practices

On 12 June 2000, the Office of Inspector General (OIG) of the United States Department of Health and Human Services (HHS) released its Draft Compliance Guidance for Individual and Small Group Physician Practices (Draft Compliance Guidance). The Draft Compliance Guidance contains a detailed discussion of the OIG's recommendations for establishing a physician practice compliance program.[1]

According to the OIG, an effective compliance program must include seven elements:

- Development and distribution of written standards of conduct, as well as written policies, procedures, and protocols that promote the physician practice's commitment to compliance;
- Designation of a compliance officer or contact(s), charged with the responsibility for developing, operating, and monitoring the compliance program, and who reports directly to the owner(s), governing body, and/or CEO;
- Development and implementation of regular, effective education and training programs for all affected employees;
- Creation and maintenance of an effective line of communication between the compliance officer or contacts and all employees, including a process, such as a hotline or other reporting system, to receive complaints, and the adoption of procedures to protect the anonymity of complainants and to protect whistle blowers from retaliation;
- Use of audits and/or other risk evaluation techniques to monitor compliance, identify problem areas, and assist in the reduction of identified problems;
- Development of policies and procedures addressing the nonemployment or retention of excluded individuals or entities; and the enforcement of appropriate disciplinary action against employees or contractors who have violated corporate or compliance policies and procedures, applicable statutes, regulations, or Federal, State, or private payor health-care program requirements; and
- Development of policies and procedures with respect to the investigation of identified systemic problems, which include direction regarding the prompt and proper response to detected offenses such as the initiation of appropriate corrective action, repayments, and preventive measures.

In addition to identifying the seven elements outlined above, the Draft Compliance Guidance identifies "potential risk areas" that the OIG recommends physician practices address in policies and procedures, audits, and training. The OIG lists four main risk areas:

- Coding and billing;
- Reasonable and necessary services;
- Record-keeping and documentation;
- Improper inducements, kickbacks, and self-referrals.

The OIG identifies more specific or additional risk areas that a compliance program should address, which include:

- Adherence to carriers' local medical review policies;
- Advanced beneficiary notices;
- Physician certification of home health services and of durable medical equipment and supplies;
- Billing for noncovered services as if covered;
- Physician relationships with hospitals, including the physician role in patient "dumping," teaching physicians, and gainsharing arrangements;
- Third-party billing services;
- Billing by nonparticipating physicians;
- Professional courtesy;
- Rental of space in physician offices by persons/entities to which the physicians refer;
- Unlawful advertising.

The Draft Compliance Guidance provided for a 45-day comment period, which ends on 27 July 2000. After the OIG receives and reviews comments submitted, it will publish a final Compliance Guidance for physician practices. Although the Draft Compliance Guidance is subject to modification based on comments, we strongly recommend that physician providers take the time now to review this document and to start putting plans in place for a compliance program.

The OIG's Focuses on Coding and Billing.—Over the last few years, the OIG has issued several "Compliance Guidances" for different sectors of the health-care industry, including hospitals, home health care agencies, durable physician equipment providers, third-party billing companies, hospice organizations, Medicare-+Choice

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organizations, and nursing facilitmies. Each of these guidance documents has followed the same format, with a discussion of the various components of a compliance program and identification of "risk areas" for the particular provider type.

The OIG places significant emphasis on coding and billing as a risk area in the Draft Compliance Guidance for physician practices. The OIG reminds physicians that they have an affirmative duty to ensure the accuracy of claims submitted for reimbursement. For the first time in its various guidance documents, the OIG attempts to clarify the types of billing issues that could subject physicians to civil, criminal, or administrative sanctions. According to the OIG, civil, criminal, or administrative penalties will not be imposed for innocent errors or even negligence in the coding and billing process. Such penalties will be imposed, however, where the physicians have been engaged in "reckless or intentional" conduct. An effective compliance program should minimize errors and "prevent potential penalties for improper billings before they occur" claims the OIG.

The OIG Views a Compliance Program as Voluntary but Expects Each Physician Practice to Put One in Place.—It is important to note that even when the Draft Compliance Guidance is finalized, it will not have the force of a law or regulation. As the OIG explains, the Draft Compliance Guidance "should not be viewed as mandatory or as an exclusive discussion of the advisable elements of a compliance program." Rather, the "document is intended to present voluntary guidance to the industry and not [to] represent binding standards for physician practices."

However, the OIG has made it clear that it expects physician practices to adopt compliance programs. The OIG recognizes that there is no "one size fits all" compliance program, especially for physician practices. The OIG stresses that "the applicability of the recommendations set forth in the Draft Guidelines will depend on the circumstances of the particular physician practice. Each practice should undertake reasonable steps to respond to each of the seven elements of the Draft Compliance Guidance, depending on the size and resources of that practice."

Although the OIG recognizes that full implementation of every element of the Draft Compliance Program may not be feasible for all physician practices, initial "good faith" steps that best suit a particular practice should be taken. For example, a large physician group practice can utilize both this Draft Compliance Guidance and the Third-Party Medical Billing Compliance Program Guidance[2] to develop an effective compliance program. For smaller physician practices with more limited resources, participation in the compliance program of a hospital at which the physicians practice is a way, at least partly, to satisfy the requirements for a compliance program. The OIG also suggests that smaller physician practices might consider outsourcing compliance functions, including the compliance officer functions to a third party, such as a consultant, physician practice management company, management service organization, independent physician association, billing company, or professional association. In addition, the OIG suggests that a smaller practice can offer education and training through outside seminars offered by the local medical society, hospitals, carriers, and other organizations.

Don't Wait Until the Final Document is Issued.—Based on the OIG's prior issuance of Draft Compliance Guidances that were later finalized, we believe that the final guidance for physician practices will be substantially similar to the Draft Compliance Guidance, particularly with respect to the OIG's structural recommendations on the seven core elements of a compliance program. Physician practices already developing compliance programs should be sure to consider the specific suggestions in the Draft Compliance Guidance. Those physician practices that have not yet developed a compliance program should consider launching one now.

Although the OIG recognizes in the Draft Compliance Guidance that "full implementation of all elements may not be immediately feasible for all physician practices," it emphasizes that facilities should start the process. According to the OIG, "as a first step, a good faith and meaningful commitment on the part of the physician practice management will substantially contribute to the program's successful implementation."

Make a "Good Faith and Meaningful Commitment."—Making a "good faith and meaningful commitment" to compliance means different things for different physician practices. It will depend largely on the size of the physician practice and the nature and scope of the services it provides. There is no reason why even a relatively small physician practice cannot begin that process now. To a significant extent, the compliance program may simply involve formalizing and documenting existing physician practice programs and policies.

REFERENCES

1. In addition to physicians, the OIG also recommends that osteopaths, dentists, podiatrists, optometrists and chiropractors develop compliance programs following the guidelines in the Draft Compliance Guidance. Further, the OIG states that much of the Draft Compliance Guidance can also apply to other independent practitioners, such as psychologists, physical therapists, speech language pathologists and occupational therapists.
2. The Third-Party Medical Billing Compliance Program Guidance is available on the OIG website at http://www.hhs.gov/oig.

Letters to the Editor

Letters to the Editor are considered for publication (subject to editing and abridgement), provided that they are submitted in duplicate, signed by all authors, typewritten in double spacing, and do not exceed 1-1/2 pages of text (excluding references). They should not duplicate similar material being submitted or published elsewhere. Letters referring to a recent Journal article should be received within six weeks of the article's publication.

Malingering and Symptom Magnification: A Case Report Illustrating the Limitations of Clinical Judgement

Letter to the Editor: We read with great interest and even greater distress the article by Dr. Thimineur and associates in the July issue. We would like to point out what we believe are a few of the many defects in fact, logic, and scientific method contained therein.

First, by choosing to blur the distinction between frank malingering, which we agree is rare, and symptom magnification or amplified pain behavior, which we believe is common, multifactorial, and identifiable by any diligent and knowledgeable examiner, the authors attempt the implication that anyone with unusual and unexplainable symptoms must either be labeled a malingerer (tantamount, in some situations, to accusing one's patient of a felony) or referred to an individual who is equipped to undertake the search for the obscure lesion in the central nervous system which will explain the previously unexplainable.

Second, his citation that "there are no currently reliable methods to identify the malingering chronic pain patient and no peer reviewed literature on symptom magnification" ignores the existence of massive literature of well-designed studies involving large and statistically valid groups. For example one, authored by three respected professors in the field of spinal surgery, involved over 3,000 employees of the Boeing Aircraft Co.[1] These studies, and many others, point out that there is, undeniably, a difference in injury behavior, time to recovery, response to treatment, and ultimate outcome between patients who are in a Worker's Compensation or tort liability situation, and those who are not.[2] This difference is a product of social, psychological, and economic factors and is a multifaceted product of our society. It is identifiable to careful history and physicial examination. It is true that there are no hematologic tests or imaging procedures available, but this is true for many conditions which we diagnose every day.

Third, this example fails scientific scrutiny, even by the relaxed standard of the case report, or, to put it less charitably, the "series of one." It is to us doubtful that the lesion described could be responsible for the patient's symptoms.

The explanation of symptoms offered by Drs. Thimineur, Kaliszewski, and Sood is an example of failure to understand the problem. Their theory of pain source is beyond the bounds of acceptable neurologic diagnosis for several reasons. The cartoon of pontine anatomy is inaccurate and it is the basis of the false claim that pressure on the ascending spinothalamic tract is a source of segmental pain. Further, the pain diagram cannot be accounted for on a physiologic basis since segments of pain on anterior and posterior body parts do not correspond.

We feel that this "case report" bears a suspicious resemblance to a propaganda piece promoting the concept, popular in some circles, that nonanatomic symptoms following trauma are explainable by the invocation of the existence of an undiagnosed and previously asymptomatic CNS lesion. This lesion, in concert with a peripheral injury, is said to produce prolonged, severe, and perplexing symptoms that ultimately will require the expertise of a pain specialists.

With all due respect, we are not buying.

Robert N. Margolis, M.D.
Orthopaedic Surgery

Lewis Levy, M.D.
Neurology

REFERENCES

1. Bigos SJ, Spengler DM, Nachemson A, et al: A longitudinal prospective study of industrial back injury reporting. *Clinical Orthopaedics Related Research* 1992: 279:21–34.
2. Rothman-Simeone: *The Spine,* 4th Edition 1999. Vol. II, Chap. 57. Workers' Compensation as it Affects the Spine (96 references).

"Much Ado About Something"

Letter to the Editor: In his article "Much Ado About something" (*Conn Med* 2000; 7:426-7) Donald S. Dworking, M.D., has asked for comments concerning the plight of physicians who render professional services to uninsured patients involved in accidents. Some of these patients subsequently receive large settlements from tort actions brought by attorneys representing them.

Two scenarios are presented: In the first the patient moves from the state and ignores the attorney's instructions to pay the physicians, and in the second, the patient declares bankruptcy and list the physicians as unsecured creditors. In both cases, the physicians do not receive payment for their services.

I would suggest that when a physician treats a patient involved in an accident, his billing service should ask the patient's attorney for a "letter of protection" wherein the attorney guarantees that physician fees will be paid in full before disbursing the proceeds of any settlement to the client.

Physicians should be aware that there is a document entitled "Principles of Cooperation in Medical-Legal Matters" issued by the Connecticut Bar Association and the Connecticut State Medical Society which appeared in *Connecticut Medicine*, October 1998. Article VI, C, 6.8 states "When a patient-client cannot pay a treating physician's fee for medical services for an injury, the physician should consider foregoing formal action to collect the fee in a spirit of cooperation and comity until circumstances are clarified. The attorney should notify the physician in writing and in a timely manner that the physician's fees will be protected in the event proceeds are available from a settlement, judgement, and/or insurance coverage."

If the attorney is derelict in his/her responsibility to pay professional fees, a complaint may be filed with the Statewide Grievance Committee of the state bar.

Lawrence N. Rappaport, M.D.
Avon

Treatment of Lyme Disease

Letter to the Editor: The article on Treatment of Lyme Disease excerpted from *The Medical Letter* touches on a number of controversies regarding treatment. Earlier articles published in *Connecticut Medicine* have also raised some important issues regarding the epidemiology of Lyme disease. Most practicing physicians will acknowledge gross underreporting of Lyme disease. Perhaps the major reason for this is the currently accepted CDC criteria. Few patients in my practice meet the stringent guidelines outlined by the CDC. I believe the current guidelines have "set the bar too high." Part of the problem lies with their assumption that erythema migrans occurs in 80% of cases. My review of the literature and personal experience with several hundred cases suggest 40% would be a more correct figure. In the absence of erythema migrans the diagnosis must be made on clinical grounds. Rarely is laboratory testing of any practical value due to questionable accuracy and the long time necessary for seroconversion. A meta-analysis of prophylaxis of tick bites is of little value since the incidence of Borrelia in the tick population will vary both by year and region. Some recent data suggest a 65% infection rate in ticks collected by the Department of Agriculture. There is probably little controversy regarding prolonged tick attachment and increased risks of exposure but few patients can state with any degree of certainty when the tick became attached. In fact, some studies have found that only about 50% of Lyme disease patients can recall being bitten at all. The diagnosis of Lyme disease in early or subtle cases is difficult. Clinicians are dealing with a somewhat enlightened and often frightened patient. Strict adherence to CDC guidelines by many physicians has led to patients becoming doctor shoppers and consulting with self-proclaimed "Lyme disease specialists." These "specialists" perform nonstandardized tests and interpret them broadly. Not infrequently, these patients will then be placed on intravenous therapy or multidrug regimens often for months at a time. The one point raised in *The Medical Letter* I do agree with is there are few published reports on controlled trials for treatment of late or recurrent Lyme disease.

The purpose of this letter is to call attention to the lack of consensus regarding diagnosis, treatment, and the expected clinical course of Lyme disease. Articles such as *The Medical Letter* do little to enlighten those of us who treat this disease on a daily basis and have to make sense of when to treat and/or for how long. Research based medicine is only as good as the data it is based on. The data on Lyme disease is flawed and inaccurate. Performing a meta-analysis on these data and making recommendations based on this does not do a service to the profession. Suggesting we avoid treating questionable or early cases is an invitation to disaster. As much as I hate to bow to "defensive" medicine, if even one patient develops late complications due to delay in treatment, I doubt the CDC guidelines would provide much of a defense for malpractice. We need solid recommendations, not statistics. It is time for a hard look at the disease from the perspective of the treating physician. The current guidelines for diagnosis seem too strict. As a result of this, all further recommendations are based on a small fraction of the total number of cases being treated. This has helped lead to the current state of confusion. I welcome input from colleagues who are treating similar patients and having the same questions regarding diagnosis and treatment.

James Marshall, D.O.
Monroe

Universal Healthcare: A Bold Proposal

Letter to the Editor: The article in the August 2000 Connecticut Medicine entitled, Universal Healthcare: A bold Proposal, written by K.J. Lee and Mark Lee, reviews all the reasons we should move ahead to a single-payor health plan, like the Canadian system, at this time. But I think that to present it alone, without some attempts to "level the playing field" for all people living in poverty, would make Universal Healthcare blamed for all failures, whether due to abuse, malnutrition, use of street drugs, homelessness, lack of parental observation and guidance, etc., in addition to health problems. Your readers may find interesting my book currently in process, on leveling the playing field, entitled "Love is Everything Except in Tennis."

Donn C. Barton, M.D.
Glastonbury

From the Executive Director's Office

COUNCIL MEETING

Wednesday, 23 August 2000

Attendance

Present in addition to the Chair, Dr. Deren, were Drs. Ahamed, Aleali, Beck, Bigos, Connair, Ducey, Gorelick, Herzog, Keating, Mansourian, Redmond, Scarpa, Sindwani, Schwartz, Tesoro, Timmerman, Van Linda, and Wong.

Also present were Mr. Norbeck, Ms. Lindquist, Mr. Brunell, Ms. Morelli, Ms. Norbeck, Ms. Schaffman, Ms. Graham (all CSMS staff); Mr. Fiorentino (HCMA and NHCMA staff); Mr. Thompson (FCMA staff); Mr. A. Schuman and Mr. Mark Schuman (NLCMA, WCMA, MCMA, TCMA staff); and Dr. Thompson, Mr. Lalime, Ms. Mastriano (CSMS-IPA staff).

Absent were Drs. Brooks, Eslami, Franklin, Galvin, Geary, Geist, Goodrich, Handelman, Hollister, Katz, Maloney, Montegut, Sadowski, Sosa, Sridhar, Sureddi, Turner, and Wetstone.

Report of CSMS-IPA

Mr. Ken Lalime and Dr. David Thompson, Jr. addressed the issues sent to the IPA by the Council from the June 22nd Council meeting.

It was stated that the IPA would reduce this deficit by at least $1 million per year until eliminated. The Board of Directors of the IPA is responsible for making the determination of additional deficit reduction beyond the $1 million per year contractual requirement.

Mr. Lalime also provided an update to the Council on the current situation with PRO Behavioral Health, the vendor currently responsible for the provision of behavioral health services to PHS members. IPA management and Board of Directors are actively working on this issue on behalf of the IPA members that may be affected. The IPA will provide additional information as it becomes available.

IPA management, staff and physician committee members continue to work with PHS management to resolve issues and problems presented to the IPA by members.

Report of the President

Dr. Timmerman reported on the following items: At the last Council meeting, the resolution submitted by the Hartford Council Medical Association entitled "Dangerous Doctors: Hospitals' Silence Helps Shield Problem Doctors" was discussed and it was voted that an Ad Hoc Committee be appointed. It was reported that the committee has been formed and will be chaired by Dr. Herzog and be composed of Drs. Misiak, Sadowski (as CMIC) a CMIC staff person to be designed by CMIC, Dr. Grey and Michele Norbeck from the Physician Health Program, and Dr. Timmerman. The first meeting is scheduled for October 30th.

He reported that Dr. Joxel Garcia would be joining the Council at about 3:00 P.M. to present a credentialing program which he intends to propose to the legislature in the upcoming session. Both Michele Norbeck and Mag Morelli have participated in meeting with the Department of Public Health where Dr. Garcia and his staff have presented his proposal to representatives from health plans, hospitals, and the medical societies.

It was reported that he had received a communication from Dr. Gordon Grundy, the Connecticut-Rhode Island Network medical director requesting that CSMS appoint a member of the Council to be a representative on the Aetna/US Healthcare Connecticut Quality Advisory Committee. This committee meets eight times a year at the Middletown headquarters to direct quality improvement in preventive, acute and chronic care; to improve care within the Plan and review practice guidelines and clinical protocols. Dr. Grundy also made available an additional position for a procedural cardiologist on their Credentialing and Performance Committee. The Chair of the Council appointed the CSMS President, Dr. Timmerman.

Another request was received from the Vice President of Health Affairs at United Healthcare for a representative to serve on a steering committee they are forming to explore patient safety issues in the ambulatory setting. The Patient Safety Committee would use e-mail and faxing to accomplish work goals between the four meetings planned and the meeting would take place at the United Healthcare headquarters in Warwick, Rhode Island, video conferencing in their Hartford office.

He reported on action taken on the House of Delegates resolution to invite delegates from the specialty section to attend the meeting. CSMS already had 22 specialty sections. The staff has written to all the AMA recognized national specialty societies and have heard from 37 to date, of which 11 supplied the leaders of the Connecticut Chapters, for a total of 33 state specialty chapters known to date in Connecticut. They will be invited to designate their CSMS Delegate and Alternate in time for the November House of Delegates meeting.

Dr. Timmerman reported that the Ad Hoc Committee on Membership is being revitalized to develop a long range plan of action to address state and county membership needs. The committee is made up of the AMA delegation, senior county councilors, county executive directors and a student and resident member. The first meeting is scheduled for September 27.

Report of the Executive Director

Mr. Norbeck reported on the following items:

1. Update on Norwood/Dingell Bill-Patient Protection Bill: AMA Executive Vice President, Dr. Anderson met with House Speaker Dennis Hastert, who told him that the lack of support for the issue could cost Republicans the House.

   The Democrats need six seats to win house control; of 33 open seats, Republicans must defend 24, but Ohio Democratic representative James Traficant says he will vote for a Republican Speaker, so Democrats will need 7.

   The U.S. Senate voted 51-48 against Norwood/Dingell on June 2, with Democrat Kent Conrad, North Dakota, unable to vote, so vote really was 51-49. With the recent death of Republican Senator Paul Coverdell, Georgia, who voted against it and his successor Democrat Zell Miller, who will vote for it, it is likely that another Senate vote would yield a 50-50 tie, with Vice President Al Gore breaking it. If Congress passes a patients' bill of rights, it is all but certain that it will contain some provision allowing enrollees to sue their health plans-a considerable pill for many Republicans to swallow. The platform of the national Republican party in Philadelphia approved patient protection measures that include the right to sue health plan, "as a last resort." That right includes the caveat that enrollees would have to go through an appeals process first.
2. The Campbell Bill: The bad news is that it is almost certain to lose San Jose, California Republican Congressman Tom Campbell from the House, since he is running an uphill race against Senator Diane Feinstein. A huge victory was won in the House on June 30 by a substantial 276-136 vote. It would give physicians the same rights as union workers to negotiate with health insurers over fees, treatment and other contractual items. Physicians would not be able to strike and there would be a three year sunset provision so effects of the bill could be studied.
3. It was reported that 22 health insurers made an effort to make the lives of physicians easier. Half the things they have promised are already law in most states, and it seems to be an effort to forestall Norwood/Dingell legislation. Incidentally, Travelers' complaints were up 74% over last year in the first quarter of 2000. If the HMOs really believe in making things easier for physicians and patients, they could support the Norwood/Dingell bill instead of floating a smokescreen. Also, legislation is needed, not HMO promises, because what they promise can always be retracted.
4. The AMA, most physician groups, and Republicans in general support Medical Savings Accounts (MSAs'). Democrats have not embraced MSAs at all; many of them staunchly oppose them. New Jersey Democrat, Senator Robert Tomiselli, Chair of the Democratic senatorial campaign committee, has expressed strong support of MSAs, and states that MSAs must become a permanent health care choice and that the pilot program established in 1996 by the HIPAA legislation. This is a very positive development, particularly since an influential Democratic Senator has embraced it and perhaps his strong stand may lead to other Democrats supporting MSAs.

Legislative Report

Dr. David Parke, Chair of the Legislative Committee reported on the Podiatry Board's intention to produce a declaratory ruling regarding whether a podiatrist can take a history and perform a full physical.

It was further reported that the Office of Health Care Access (OHCA) has released their proposed regulations to implement the declaratory ruling regarding Certificate of Need (CON) for physician office surgery. CSMS will be convening a meeting of interested physicians and specialty societies to discuss and review the proposed regulations.

Citizens for Patients' Rights

Dr. Karen L. Laugel, Chair of Citizens for Patients' Rights (CPR), joined the Council to explain the purposes of this group. CPR is a nonprofit organization originally formed by a committee of physician members of the Fairfield County Medical Association to provide patient education to navigate the health insurance and legislative arenas to raise public awareness regarding current problems in health care systems, and to stimulate health care reform. Dr. Laugel was seeking CSMS' endorsement of CPR to aid in statewide expansion, and would like to establish a collaborative relationship regarding legislative efforts. Detailed printed material explaining CPR's goals was distributed with the Council agenda. It was VOTED to commend the Fairfield County Medical Association for their efforts and urge them to work with the CSMS Committee on Legislation and after a period of time of following the progress of the CPR program, have the Committee on Legislation report back to the Council.

County Reports

Dr. Seyed Aleali, representing Dr. Kathryn Lavorgna, President of Fairfield County who could not be present, reported that a survey was being sent to its members to rate the various HMOs in Connecticut. Also, that they were developing a new program called "FLAG" (Fairfield County Legislative Action Group) in an effort to improve FMC's existing legislative contact program.

Presentation of Legislative Proposal for Credentialing by the Department of Public Health

Dr. Joxel Garcia, Commissioner of the Department of the Public Health, (DPH) joined the Council to discuss his proposal for a centralized physician credentialing program. He reported that providers are required to complete multiple credentialing and re-credential forms for multiple vendors, resulting in loss of time and increased cost.

Currently, the DPH responds to 25,000 credentialing related requests for physician license information annually, and because of the current Profile Program, it has a significant amount of the information needed for a full credentialing program. The DPH proposal is to collect documentation and prepare a comprehensive report on each licensed physician which may be used by health care organizations and health plans in evaluating/credentialing physicians. The objectives are to reduce duplicative efforts in document gathering and credentialing, reduce overall administrative costs to the health care system, increase efficiency for providers. The benefits of centralized credentialing would be a "one-stop shopping" process and the information would be secured. The Commissioner asked that the Council members think about the proposal , and give him some feedback on any concerns that may arise. It was suggested that Mag Morelli, Michele Norbeck, Dr. Parke and Dr. Timmerman collect concerns regarding the proposal and continue negotiations with Dr. Garcia. The Chair expressed the concern that once confidential peer review information gets into the proposed certification plan, under the Freedom of Information Act, this will be available to attorneys and reporters.

Minutes of Meeting

It was VOTED to receive the following minutes as information and the Council acted on the recommendations contained in the minutes of the Committee on Public Health:

Committee on Public Health—6/27/00

It was VOTED to approve the recommendation of the Committee "that the CSMS Council support the Society's sponsorship of the Health-Trace program, as it relates to asthma, in Connecticut. CSMS sponsorship would include identification in local print ads and working with other members of Health-Trace to encourage data collection and tracking of asthma."

Committee on Legislation—6/27/00

It was VOTED to approve the committee's recommendation that CSMS oppose the following inappropriate expansions of practice, and that CSMS be willing to meet with either the pharmacists or the physical therapists, if such a meeting is requested, but with the following guidelines:

a. CSMS should oppose direct access to patients for physical therapists, but be willing to discuss non-treatment issues such as wellness clinics and injury prevention programs in the workplace.

b. CSMS should oppose community based physician-pharmacist collaborative practice.

c. That CSMS join AMA in support of Federal Legislation (HR-207) proposed by the Federal Physicians Association to enhance federal physicians retirement benefits so as to provide recruiting and retention incentives.

Dates of Future Meetings

Council Meeting: Thursday, 19 October 2000

House of Delegates: Semi-Annual Meeting
Wednesday, 8 November 2000

Council Meeting: Thursday, 25 January 2001
Wednesday, 21 March 2001

House of Delegates: Annual Meeting
Wednesday, 16 May 2001

Awards

M.D. PAC Awards: Dr. Timmerman, Chair of the M.D. PAC Board, expressed his appreciation to the county associations for their ongoing encouragement of support of M.D. PAC. He stated that support from the counties is essential to its success. It was reported that the Board would recognize the county efforts on an annual basis and awards were presented to the top three counties for PAC memberships. The awards went to Middlesex County for attaining 20% of their membership in PAC, Tolland County for 19% and New London County for 17%.

Denise Graham, CSMS staff, who has been assisting physicians in arranging fund raisers for various candidates, explained ways and means by which physicians could support candidates. Many physicians have been hosting fund raisers in their homes and a list of the dates of forthcoming fund raisers was distributed. It was announced that Representative Dyson, will attend the next Council meeting.

Joseph C. Czarsty, M.D.: Dr. Timmerman acknowledged Dr. Czarsty for his remarkable zeal and energy. He thanked Dr. Czarsty for his many years of unconditional commitment and dedication and stewardship of the Council. Dr. Czarsty chaired the Council from 1988-1996, which is longer than any other person since 1924. Dr. Czarsty served in various capacities at county and state level, leading up to the presidency of both organizations. Dr. Timmerman presented him with a clock which was suitably inscribed.

N.B.: The foregoing is a summary of the proceedings and actions of the Council on 23 August 2000. Detailed minutes of the meetings are on file at 160 St. Ronan Street, New Haven, for perusal by any interested member of the society.

Pictured: Donald D. Timmerman, M.D., president, Joseph C. Czarsty, M.D., recipient, and Michael M. Deren, M.D., chair of the council.

IN MEMORIAM

BEATY, JOHN T, Columbia University College of Physicians and Surgeons, 1943. Dr. Beaty practiced nutrition and general preventative medicine in Greenwich for 47 years, retiring in 1990. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Beaty died 22 November 1999 at the age of 82.

CASERTA, SILVIO J., Georgetown University School of Medicine, 1937. Prior to his 1983 retirement, Dr. Caserta served on the staff of St. Vincent's Medical Center and was a former Chief of Pulmonary Disease and Inhalation. From 1965 to 1970 he was a clinical instructor in medicine, division of chest, at Yale University School of Medicine. Dr. Caserta was a member of the Fairfield County Medical Association and the Connecticut State Medical Society. Dr. Caserta died 25 July 2000 at the age of 88.

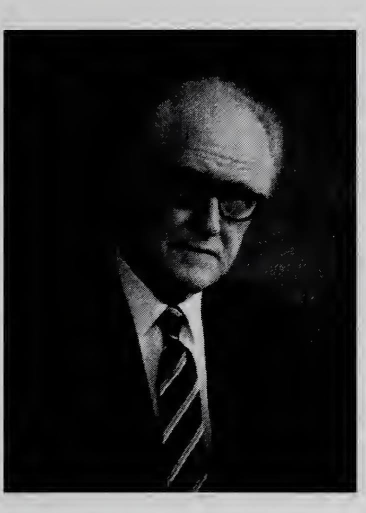
COX, MARCUS E., University of Cincinnati College of Medicine, 1936. Dr. Cox was a former chief of pathology at St. Mary's Hospital in Waterbury and previously taught at the Yale University School of Medicine. He was medical examiner for the town of Woodbury for many years. He was an active member of the American Association of Pathologists and the American Association of Blood Banks. Dr. Cox was a member of the New Haven County Medical Association, the Connecticut State Medical Society where he served for many years on the Committee to Study Perinatel Morbidity and Mortality, the Conference Committee with the Connecticut Bar Association, the Committee on Organ and Tissue Transfer, and the American Medical Association. Dr. Cox died 15 August 2000 at the age of 89.

HALL, MARTIN I., University of Edinburgh, Faculty of Medicine, Scotland, 1934. Dr. Hall maintained a private practice in Bristol until 1972. He served as Chief of Medical Services at Bristol Hospital and also served on their Medical Board. Former president of the Bristol Medical Society, Dr. Hall was a member of the Hartford County Medical Association and the Connecticut State Medical Society where he previously served on the Committee on the Medical Aspects of Sports. Dr. Hall died 7 August 2000 at the age of 93.

LYALL, SANTOKH S., Maulana Azad Medical College, University of Delhi, India, 1965. Dr. Lyall was an attending physician at The Hospital of St. Raphael Emergency Room for 19 years and maintained a private practice in Branford for the past six years. He was a member of the New Haven County Medical Association and the Connecticut County Medical Association. Dr. Lyall died 3 August 2000 at the age of 57.

PERNETTI, ANTHONY M., New York Medical College, 1929. Dr. Pernetti served as Chief of Urology at Patterson General Hospital and Valley Hospital in New Jersey and maintained a private surgical practice in New Jersey for 30 years. He was Chief of Health Services for state employees in Connecticut until 1975. He was a member of the Middlesex County Medical Association and the Connecticut State Medical Society. Dr. Pernetti died 18 July 2000 at the age of 95.

WATERMAN, WILLIAM B., Columbia University College of Physicians and Surgeons, 1944. Dr. Waterman was associate medical director of Aetna Life Insurance from 1963 to 1980. Prior to that, he practiced medicine in New York City for 13 years. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Waterman died 12 August 2000 at the age of 82.



Stanley Webber Jackson, M. D.
1920–2000

Stanley Jackson personified thoughtful deliberation. Calm and measured, he was temperamentally well suited for his first career as a psychoanalyst. The decision to enter psychiatry came a little later than would be the average today because, as a Canadian, he volunteered in 1941 for the Royal Canadian Air Force and served as a navigator until the close of hostilities. He then entered McGill University's School of Medicine, graduated in 1950 and served an internship and residency. For the last two years of his psychiatric residency he went to Seattle where he joined the staff of Pinel Foundation and also became an instructor in the Psychiatry Department of the University of Washington. From 1957–64 he was in private practice. Stan completed his psychoanalytic training in 1962. His interest in the history of psychiatry developed while teaching in the Seattle Psychoanalytic Institute and in 1964 he received a research fellowship which enabled him to pursue his interests full time at Yale's Department of the History of Science and Medicine. The remainder of his life would be spent studying and teaching at Yale.

The Yale Psychiatry Department also called on Stan's expertise and elevated him to the rank of Professor in 1975. He was considered an outstanding advisor and teacher of psychotherapy. As head of the Connecticut Mental Health Center's Outpatient Division, he supervised scores of residents until his retirement from that Department in 1991. By this time he had also taken an active role in the Western New England Psychoanalytic Society, becoming its President and later President of the Psychoanalytic Institute.

One can only wonder at the organization and devotion which allowed him also to pursue from the 1960s a second career, a broadly conceived and creative study of the history of psychiatry. He published eighteen papers which ranged in subject from melancholia to the nature of what he called the "listening healer." In 1986 Yale Press published the culmination of this research, Melancholia and Depression: From Hippocratic Times to Modern Times, a fascinating and scholarly study which was quickly appreciated as one of the classic studies in the field. Writing in the New York Review of Books Macdonald Critchley described it as "a magnificent monograph; a masterpiece of erudition."

Stan's editorial expertise led him to accept the editorship of the Journal of the History of Medicine and Allied Sciences from 1991 to 1996. Further honor came to him when he was elected President of the American Association for the History of Medicine in 1998.

Last year his second major book, Care of the Psyche: A History of Psychological Healing, was published. A review in the New England Journal of Medicine described the book as "brilliant" with a "message for practitioners and teachers of medicine alike that physicians can still be therapeutic agents, that the triumphs of biomedicine should not obscure the importance of human passions …" Stan summed up his view on the listening healer:

"Among those with a disposition toward caring and curing, some have brought inclinations and temperament especially suited to the practice of psychological healing—a respectful and interested way of listening; a readily felt trustworthiness; a compassionate and sympathetic response to those who suffer; a capacity for arousing and sustaining hope; and a calm response to disturbing or frightening clinical states."

His wife Joan, whom he married in 1946, is a legendary expert on alcoholism with standard works on Skid Row and alcoholism and the family. Together Stan and Joan formed a team of mutual support that enabled each to achieve lasting contributions to their fields.

Stan became ill with lymphoma in February. The initial diagnosis was optimistic, but he suddenly became worse and died on 24 May 2000 at the age of 79. He worked to the end and, although he was unable to attend the annual meeting, completed his presidential address to the History of Medicine Association,.

David F. Musto, M. D.

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Correction

In the "Much Ado About Something" article, published in the July 2000 issue of *Connecticut Medicine,* Donald S. Dworken's name was misspelled.

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CONNECTICUT MEDICINE (ISSN 0010-6178), published monthly at 160 St. Ronan Street, New Haven, CT 06511. Subscription rate included in membership dues. Non-members: $25.00 per year. Periodicals postage paid at New Haven, CT and at additional mailing offices. POSTMASTER: Send address changes to Connecticut Medicine, 160 St. Ronan Street, New Haven, CT 06511-2312.

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Vol. 64, No. 10 *The Journal of the Connecticut State Medical Society* October 2000
160 St. Ronan Street, New Haven, CT 06511 (203) 865-0587

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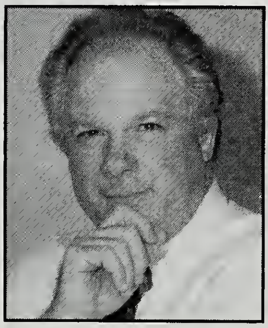

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Culturing the Throat to Protect the Heart: Dr. Milton Markowitz and the Prevention of Rheumatic Fever

THOMAS MURRAY, PH.D. AND MICHAEL GREY, M.D.

ABSTRACT—The purpose of this article is to briefly review how the understanding of rheumatic fever has evolved over the last 50 years. Particular emphasis is given to the identification of the Group A streptococcus as the causative agent of rheumatic fever and the use of antibiotics to treat and prevent rheumatic fever. Throughout his 50-year career, Dr. Milton Markowitz, former chairman of the department of pediatrics at the University of Connecticut School of Medicine, has been involved in these advances as an international expert on rheumatic fever prevention. Using archival materials, including some of the earliest literature descriptions of rheumatic fever, as well as an extended interview with Dr. Markowitz, the authors present a unique personal perspective both on the history of rheumatic fever and the context within which the scientific advances that have led to contemporary treatment and prevention strategies have evolved.

> Now rheumatic fever is so uncommon that if I were to ask a medical student about Jones, he'd probably think I was talking about either the Dow Jones, or maybe Paula Jones.—Milton Markowitz, M.D.

AS late as 1943, rheumatic heart disease was a leading cause of death among children in the United States.[1] The virtual disappearance of rheumatic fever (RF) and its consequent heart disease in the U.S. as we enter the 21st century is a triumph of both community-based medicine and basic science. Milton Markowitz, the former chairman of the University of Connecticut Department of Pediatrics, was deeply involved in the care of children with RF. His perspective on the history of the treatment of RF is unique because of his contributions to the prevention of this once dreaded disease. In reviewing his career and the story of RF with him, one discovers just how much the practice of medicine has changed in the last 50 years.

Rheumatic Fever: An Overview of Clinical Features

Acute RF may present in a variety of ways one to three weeks following Group A streptococcal pharyngitis. The clinical presentation was eloquently described by Cheadle as early as 1888[2] and that description became the basis for the criteria developed by T. Duckett Jones for the diagnosis of RF. The Jones criteria include five major clinical manifestations—arthritis, chorea, subcutaneous nodules, erythema marginatum, and carditis-and two minor clinical manifestations—fever and arthralgia.[3,4] Also considered minor manifestations are elevated acute phase reactants, such as C-reactive protein and the erythrocyte sedimentation rate, and a prolonged P-R interval on EKG. Two major criteria or one major and two minor criteria accompanied by evidence of prior streptococcal infection (positive culture, positive rapid streptococcal antigen test, or elevated antistreptolysin O titer) make the diagnosis of RF highly likely.[4] Carditis is the most serious and feared complication of RF, leading to significant morbidity and mortality. As the French physician Lasègue wrote in 1884, "rheumatism licks the joints, the pleura, the meninges even, but bites the heart."[1]

THOMAS MURRAY, PH.D., M.D.(2000), MICHAEL GREY, M.D., M.P.H., Associate Professor of Clinical Medicine Department of Medicine, John Dempsey Hospital University of Connecticut Health Center, Farmington.

In the 1920s, the mortality rate of acute RF and rheumatic heart disease was about 40 per 100,000.[5] Significant advances in the treatment and prevention of rheumatic fever followed such that it is now a rare diagnosis in the US. Indeed, in the 1970s the mortality rate had dropped to less than 0.5 per 100,000.[5] Therefore, it should not be surprising that most U.S. medical students are not familiar with T. Duckett Jones or his criteria for the diagnosis of RF. Recent outbreaks in the US in the late 1980s[6] and the continuing prevalence of RF in parts of the world such as Indonesia and China,[7] however, are a constant reminder of the limits of current prevention strategies and the resilience of the Group A Streptococcus.

Milton Markowitz: The Early Years

Dr. Markowitz became interested in children while working as a waiter in the children's dining room at his parents' small hotel in the Catskills. After medical school he entered a nine-month internship where he became interested in pediatrics because, to quote him, "children had a way of bouncing back from illness rapidly that made you look good." WWII interrupted Dr. Markowitz' medical training; he served in the Navy as a member of the Normandy invasion on D-day, coincidentally his 27th birthday.

Upon returning from the service in 1946, two years after Jones published his criteria,[3] Markowitz took a position at Irvington House in New York as an assistant physician. "The Irvington House was one of at least a half dozen hospitals that were devoted to rheumatic fever. The number reflects how frequent rheumatic fever was at that time. In the 15 months I spent there, I was involved in the care of about 100 children and adolescents."

While the association of tonsillitis with RF was appreciated in the late 19th century,[8] at the time it was thought to be a manifestation of the disease rather than the cause.[2] Early epidemiologic evidence gathered at the end of the 19th century confirmed the association between RF and pharyngitis and strongly suggested an infectious etiology for RF.[9] After further work confirmed the infectious origin of RF,[10] the debate focused on the causative factor. In 1930, Coburn in the United States and Collis in the United Kingdom independently presented the first evidence that the Group A β-hemolytic Streptococcus was the causative agent.[11,12] Dr. Markowitz recalls that there remained some skepticism in the medical community about the role of the streptococcus well into the 1940s. In some respects, there was good reason to be skeptical. Dr. Markowitz explains: "At the Irvington House, a few years before I got there, they had an outbreak of streptococcal infection in the hospital. Thirty two children with rheumatic fever had streptococcal infections, but none of them developed recurrences. The organism was the type 4 streptococcus.[13] Now we know it's a non-rheumatic genotype. But you can imagine this produced more skepticism." As late as 1952, Bland and Jones wrote, "The specific cause of the disease remains unknown."[14] Nevertheless, a review of the epidemiology of RF by Rammelkampf et al in the same year concluded that all of the factors contributing to RF, "are important only because they are related to the preceding streptococcal infection which initiates the attack of rheumatic fever."[15] It was not until the revision of the Jones criteria, published in 1965, that evidence of a prior streptococcal infection was widely accepted as being essential for the diagnosis of RF.[16]

Preventing Rheumatic Fever: Penicillin and Public Health

After observing the detrimental effects of recurrent RF on children at Irvington House, Dr. Markowitz became particularly interested in prevention. Studies on the effectiveness of daily sulfanilamide to prevent recurrences of RF (secondary prevention) were initially published in 1939.[17,18] However, Dr. Markowitz notes that, in the community, daily prevention was not practiced much in the 1940s. "It wasn't until well into the 1950s that preventative programs, especially through the American Heart Association, started up around the country."

Secondary prevention continues to be of significant clinical and public health importance to the present day. According to Dr. Markowitz. "Secondary prevention was, and still is, until we get a vaccine, the greatest advance in care. Heart disease is most often the result of recurrences of streptococcal infection. Yes, with the first attack you can have serious heart disease, but very often it is mild. If you can prevent recurrences, you prevent serious heart disease. Even the mitral murmur discovered after the first attack often disappears later with healing."

In contrast to secondary prevention, primary prevention involves treating streptococcal pharyngitis with antibiotics to prevent the initial attack of acute RF. Early trials employing sulfanilamide for acute pharyngitis to prevent RF were unsuccessful.[19] It was not until penicillin (PCN) became widely available in the late 1940s that primary prevention was possible. Classic studies on large numbers of recruits at Army bases confirmed smaller studies that giving PCN G to patients with streptococcal pharyngitis significantly reduced the incidence of RF.[20] Other studies found one parenteral dose of benzathine PCN to be efficacious[21] and several laboratories presented evidence that oral PCN also prevented RF.[22] Indeed, these remain the current treatment choices for streptococcal pharyngitis. The major advantage of the military studies was the ability to control the study population, guaranteeing compliance and complete follow-up data on outcomes. Similar controls over community-based studies of primary and secondary prevention of RF continue to bedevil researchers to the present day.

Markowitz remained interested in prevention of RF after he left the Irvington House to complete a pediatric residency at Johns Hopkins. He then entered private practice with Dr. Alexander Schaafer in Baltimore and was one of the first physicians to use PCN to prevent RF. It was during this time that he experienced some of the problems involved with the primary prevention of RF. The first was the accurate diagnosis of streptococcal pharyngitis. Dr. Markowitz describes how he was introduced to the use of throat cultures as a diagnostic aid, and how he played a role in promulgating this essential office technique throughout the nation: "In 1951 I made a home visit on a new patient, a six year-old with an exudative pharyngitis that seemed streptococcal. I was about to give the child a shot of PCN when the mother said, 'Wait a minute. Aren't you going to do a throat culture?' I said I could, but I would have to go back and get the culture materials. After I had given the shot, I said to her, 'Why did you ask about the culture?' 'I just moved here' she said, 'from Rochester New York, and Dr. Burtis Breese did it routinely.' He was the first doctor in America to do throat cultures. I called him on the phone and he told me what he did. He had an incubator in his office."

Markowitz continued: "I went out and found that I could get the culture material, bought an incubator for my office, and began incorporating cultures in my routine care of patients. I was the second person in the U.S. to do that. I published a paper based on the results of the throat cultures, comparing them to the clinical diagnosis and seeing what degrees of accuracy you could achieve.[23] Throat culturing spread all over Maryland and then throughout the country. It is still popular at the present time with better techniques and rapid tests. I even had an incubator in my home because there were so many house calls to make. I would culture things on the house calls that I would make, stick them in my incubator at home, and read them in the morning."

Dr. Markowitz became active in the RF clinic at Johns Hopkins, eventually becoming director. There he met Dr. Leon Gordis with whom he collaborated on a number of studies on the prevention of RF in the community. Next, Dr. Markowitz worked for Sinai Hospital in Baltimore where he set up an inner city clinic. "There we introduced new concepts in the care of streptococcal infection. For that area we had figures on the incidence of RF. We also had a group that wasn't allowed to use that clinic to serve as the control population. Gordis published these results in the *New England Journal of Medicine* showing we could have an impact on the incidence of rheumatic fever; but, you had to work at it."[24,25]

Markowitz and Gordis also studied another problem related to both primary and secondary prevention-patient compliance with PCN treatment.[26] "We had a compliance study at Johns Hopkins. We even created a test, which was a good one.[27] We had this for nurses in schools where there were kids on prophylaxis for prevention of recurrences using oral medication. We'd have the school nurse periodically ask for a sample of urine. They'd dip in a little piece of filter paper, wave it dry, put it in an envelope for us, and send it to our laboratory. We'd put it on agar where streptococci were growing to see if it would inhibit growth. If so, we could tell they were complying. We tried to figure out the reasons for noncompliance. One reason was if they weren't hospitalized for their rheumatic attack. They were more likely to be a non-complier if the family wasn't impressed." Unfortunately, full compliance with the treatment regimen continues to be a problem even today. As Markowitz explains, "You'd like to treat a patient with oral medication, if you could. But patients with streptococcal infections given 10 days worth of PCN feel very well at three days, so they stop the medication."

The biggest reason for failure of primary prevention, then and now, is the nature of the preceding streptococcal pharyngitis. "The biggest obstacle of all," states Markowitz, "is that anywhere from two-thirds of the patients who develop rheumatic fever, who had streptococcal infections proven by antibody studies, were asymptomatic. It was either too mild or not [clinically evident] at all. Plus, this is a disease that effects poor people. People who live in poverty may not run to the doctor with a sore throat."

From Connecticut to China

After six years at Sinai Hospital, Dr. Markowitz came to Connecticut and assumed the chairmanship of the Department of Pediatrics at the new medical school in Farmington, Connecticut. While at the University of Connecticut School of Medicine he continued his interest in prevention of RF, publishing multiple papers, including an important study documenting the continued efficacy of PCN in primary prevention.[28] Dr. Markowitz capped his academic career at University of Connecticut School of Medicine as the Dean of Student Affairs for nine years until his retirement in 1992. He remains active in international public health efforts to control RF, where prevention of RF continues to be a problem, for many of the reasons discussed above. "Primary prevention is almost impossible to carry out in countries that don't have a real primary health care system set up yet, with facilities, and cultures. So we're all awaiting the streptococcal vaccine. There's work going on now but we can't predict how far off it is. I think there are some trials underway already"

Dr. Markowitz continues to be involved in international studies aimed at improving the prevention of RF like one he describes in New Zealand, "The Native population has an extraordinary incidence of rheumatic fever. It's a school-based study to recognize streptococcal infections and treat them right then and there." He is also very interested in similar community-based studies being conducted in mainland China: "They are also doing it through school health. Children have to fill out a questionnaire every day about a sore throat. They collect them and if they think a child has a sore throat they culture them at that point and treat."

The past 50 years have witnessed tremendous advances in the treatment and prevention of RF. Still, the disease remains a significant international health problem.[7] Programs to improve prevention continue, as does research towards a vaccine. Diagnostic aids such as echocardiography have resulted in another reevaluation of the Jones criteria for the diagnosis of RF. Even today, Dr. Markowitz, 82 in June, travels around the world lecturing on RF prevention, still contributing to the field more than 50 years after his start at the Irvington House.

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Unusual Presentation of “Extracavitary” Primary Effusion Lymphoma in Previously Unknown HIV Disease

BRUNO C. MEDEIROS, M.D., LORI J. MANESS, M.D., FRANK A. BAUER, M.D., JACK W. ROSS, M.D., AND DINESH KAPUR, M.D.

ABSTRACT—Human herpes virus, type 8, also called Kaposi’s sarcoma-associated virus, is associated with primary effusion lymphoma, an uncommon and unusual subset of acquired immunodeficiency syndrome-related lymphomas mostly confined to body cavities, which primarily affects human immunodeficiency virus-positive men. We report the case of a 40-year-old male with primary effusion lymphoma that presented initially with generalized lymphadenopathy and hepatosplenomegaly, followed by pericardial effusion and cardiac tamponade, in a previously undiagnosed human immunodeficiency virus patient. Cytomorphological studies disclosed a large-cell lymphoma with a population of cells demonstrating intermediate CD45 expression and partial coexpression of CD20 and CD23 markers, as well as universal expression of HLA-DR, CD71, CD38, and CD-30. Molecular studies showed clonal B-cell gene rearrangements and molecular evidence of human herpes virus, type 8. This case stresses the necessity, even in the absence of the ‘classical clinical features,’ of molecular testing for human herpes virus, type 8 in a subset of patients with high risk for human herpes virus, type 8-associated lymphomas.

Introduction

INFECTION with the human immunodeficiency virus (HIV) dramatically increases the risk of developing non-Hodgkin’s lymphomas (NHL).[1] Intermediate and high-grade lymphomas comprise the majority of the cases of NHL in HIV-infected patients, compared with only 10% in the non-HIV lymphoma population.[1,2] Primary effusion lymphoma (PEL) is a rare acquired immunodeficiency syndrome- (AIDS) related NHL of B-cell origin (comprising less than 5% of cases[3]), in which the tumor cells contain deoxyribonucleic acid (DNA) sequences of human herpes virus, type 8 (HHV-8).[4] The disease has been predominantly described among homosexual males with advanced HIV infection in Europe and in the United States of America.[4,5] Peculiar features of PEL include: 1) a propensity to proliferate in the fluids of body cavities with infiltration of the serosal linings, usually in the absence of tumor mass and/or lymph node involvement; 2) large-cell morphology, usually with null immunophenotype; and 3) a B-cell genotype. Recent studies indicate that the normal counterpart of PEL tumor cells is the mature B-cell, of preplasma cell nature.[6] We present a case of PEL presenting initially with nodal and extranodal involvement in a patient with previously undiagnosed HIV disease.

Case Report

A 40-year-old male presented with a two- to three-day history of nausea, vomiting, diarrhea, and abdominal pain. On further questioning, a nine-month history of night sweats and occasional low-grade fevers was elicited. He had ingested one to two pints of liquor a day and was an intravenous drug abuser for the last several years. He had had one previous negative HIV test several years ago.

BRUNO C. MEDEIROS, M.D., Medical Resident, Department of Internal Medicine, University of Colorado Health Sciences Center; LORI J. MANESS, M.D., Hematology-oncology Fellow, Department of Internal Medicine, University of Colorado Health Sciences Center; FRANK A. BAUER, M.D., Attending Pathologist, Department of Pathology, Saint Francis Hospital and Medical Center, Harford; JACK W. ROSS, M.D., Infectious Diseases Attending, Department of Infectious Diseases, Hartford Hospital, Hartford; DINESH KAPUR, M.D., Hematologist Attending, Department of Hematology/Oncology, Saint Francis Hospital and Medical Center.

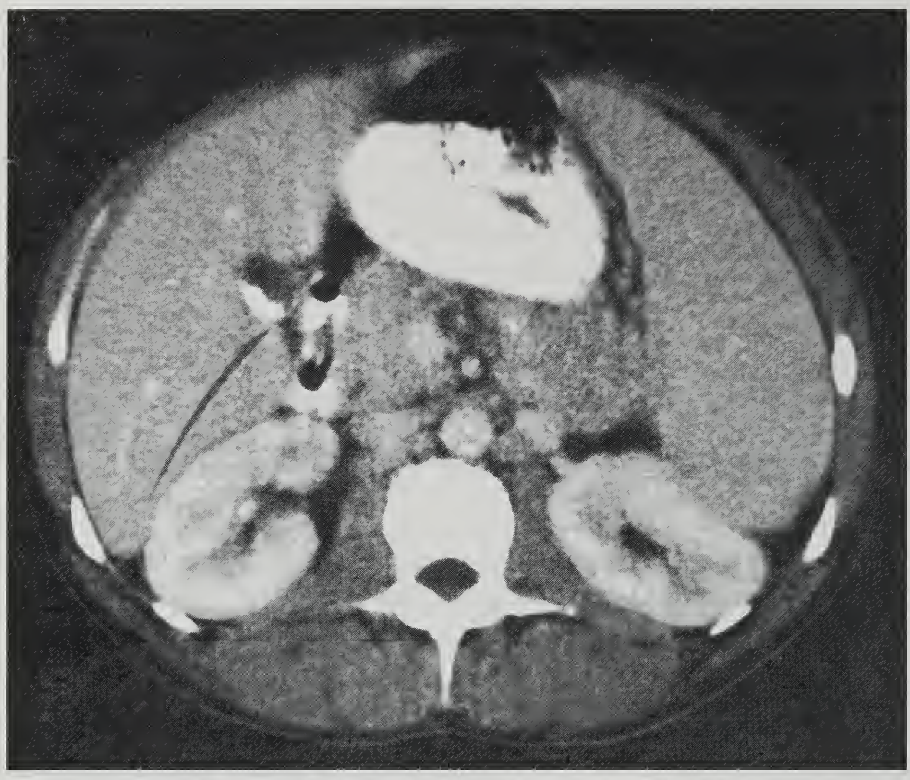

Figure 1.—Abdominal CT Scan showing splenomegaly with diffuse, small mesenteric and periaortic lymphadenopathy.

Physical examination demonstrated an anicteric, pale, febrile (103.1°c) patient with diffuse lymphadenopathy in the right axillary area, supraclavicular and inguinal regions bilaterally. Lymph nodes were mobile, nontender to palpation and varied in size from 1.5 to 2 cm. He also had a systolic ejection murmur in the aortic area and a soft, nontender abdomen with a palpable liver and spleen tip. No oral mucosal lesions were noticed.

A complete blood count showed pancytopenia with an absolute monocytosis. Renal function, serum immunoglobulins and lactate dehydrogenase were within normal limits. Liver function tests were unremarkable except for slightly elevated lipase levels. Serum protein electrophoresis demonstrated polyclonal gammaglobulinemia. Erythrocyte sedimentation rate and β-2 microglobulin were elevated. Abdominal computerized tomography (CT) scan showed splenomegaly with diffuse mesenteric and periaortic lymphadenopathy (Fig. 1). Chest CT scan and echocardiogram showed no signs of pleural or pericardial effusion.

An axillary lymph node biopsy demonstrated effacement of normal lymph node architecture by mononuclear cells. Higher magnification demonstrated medium to large neoplastic mononuclear cells with round, displaced nuclei, moderately abundant eccentrically distributed granular pink cytoplasm and increased mitoses. There was focal accumulation of tingible body macrophages resulting in a starry sky appearance. Abundant high-grade histologic features were evident, with significantly increased mitotic activity (Fig. 2). Immunohistochemical panel showed CD20 weakly positive B-cells with focal expression of leukocyte common antigen (CD45). Kappa light chain restriction was present. Bone marrow biopsy showed evidence of HIV-associated myelodysplasia and moderate plasmacytosis, but no evidence of lymphomatous infiltration by immunohistochemistry and flow cytometry. A whole body Gallium scan demonstrated abnormal activity in the supraclavicular region bilaterally, right axilla, mediastinum, periaortic, lower pelvis and inguinal regions bilaterally, as well as in the head of the pancreas-gallbladder-inferior liver area. These features were consistent with the diagnosis of high-grade plasmablastic lymphoma. The patient underwent a repeat HIV test which demonstrated a positive western blot analysis, and a diagnosis of AIDS was made. The CD4 lymphocyte count was 44 x 10^6/l and the HIV viral load was 328,000 copies/ml. Patient refused any further work-up or treatment and was discharged against medical advice.

Two months after discharge, he presented to a different emergency department with a two-day history of dry cough, shortness of breath, difficulty in breathing, fever, and malaise. Physical examination demonstrated, aside from the previous findings, tachycardia, hypotension, moderately distended jugular veins, and decreased heart sounds. Chest roentgenogram revealed cardiomegaly, electrocardiogram showed sinus tachycardia with diffuse low-voltage and echocardiogram showed massive pericardial effusion, consistent with cardiac tamponade. He was submitted to pericardiocenthesis with drainage of the pericardial effusion. Fluid analysis revealed the presence of a malignant effusion. Review of the cytospin smear showed large, atypical cells with irregular, slightly eccentric nuclei, prominent nucleoli, and abundant basophilic cytoplasm (Fig. 3). Flow cytometry showed a population of cells with intermediate CD45 expression and partial coexpression of CD20 and CD23 markers, and universal expression of HLA-DR, CD71, CD38, and CD-30. Molecular studies showed clonal B-cell gene rearrangements and molecular evidence of HHV-8 by polymerase chain reaction. Based on the new findings, a corrected diagnosis of primary effusion lymphoma was established. The patient underwent one session of chemotherapy with Cyclo-

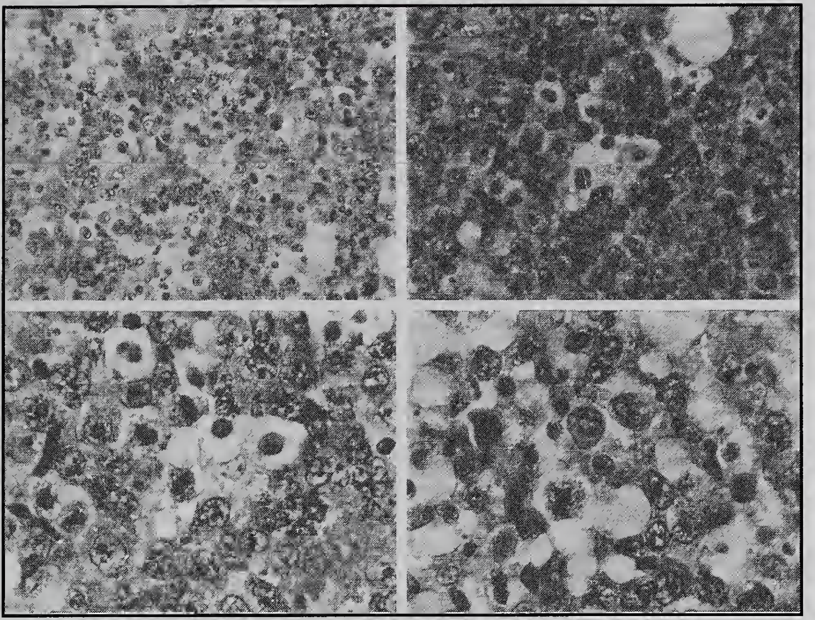

Figure 2.—*A:* Axillary lymph node biopsy demonstrating efface-ment of normal lymph node architecture by mononuclear cells (HE x 40). *B–D:* Under higher magnification there are medium to large neoplastic mononuclear cells showing round, displaced nuclei; moderately abundant eccentrically distributed granular pink cytoplasm and an increased amount of mitotic features. There was focal accumulation of tingible body macrophages resulting in a starry sky appearance. Abundant high-grade histologic features were evident, with significantly increased mitotic activity (B- HE x 100 and C,D- HE x 400)

phosphamide, Doxorubicin, Vincristine and Prednisone, and was transferred to a rehabilitation center for further follow-up.

Discussion

In their last revision, the Centers for Disease Control included high-grade B cell (immunoblastic and Burkitt-type), diffuse intermediate grade or unknown immunological phenotype NHL occurring in an HIV-positive individual as an AIDS-defining illness[7]. Burkitt's lymphoma-like diffuse, small, noncleaved histology are usually found in between 30% to 40% of cases in HIV-positive patients, diffuse large cell lymphomas of the immunoblastic subtype account for 20% to 30% of cases, and other types of diffuse large cell lymphomas account for the remaining 30% to 40% of reported cases.[2] More recently, two new entities of NHL, plasmablastic and primary effusion lymphomas, have been implicated to be AIDS-related diseases.[2,8]

PEL is a novel category of AIDS-related NHL, being first described in 1989.[9] The usual presentation is a lymphomatous effusion in the pleural, peritoneal and/or pericardial cavity without a contiguous tumor mass. In fact, more than 80% of the cases described by Cesarman et al[3] remained confined to the body cavity of origin, and initial extracavitary presentation was extremely rare.[3,4] Moreover, evidence shows that these "extracavitary" lymphomas may or may not subsequently develop a lymphomatous effusion. This appears to be the first case of "extracavitary" PEL in a previously undiagnosed HIV disease.

Plasmablastic lymphomas have been characterized by a highly proliferative cell population, displaying morphologic features of diffuse large-cell lymphomas. Immunophenotyping usually demonstrates absent or minimal expression of CD20 and CD45,[3] a strong immunostaining with plasma cell markers (CD79a and VS38) and detection of monotypic immunoglobulin light and/or heavy chain expression.[10] Despite usually being associated with Epstein-Barr virus, these lymphomas do not seem to have any association with HHV-8.[10] In the absence of malignant effusions and without molecular testing for HHV-8, distinction between plasmablastic lymphomas and "extracavitary" PEL may be difficult.

Since lymphomas other than PELs may involve body cavities,[3] a distinct possibility was the infiltration of lymphoma cells into the pericardium leading to a secondary lymphomatous effusion. Lymphomatous effusions secondarily involving body cavities are particularly common in both AIDS- and non-AIDS-related Burkitt's lymphomas.[11] However, Burkitt's lymphomas display very characteristic cytomor-phologic features, lack HHV-8 sequences in their genome and exhibit *c-myc* gene rearrangement.[4] Thus, even though the presence of the *c-myc* gene was not studied, the diagnosis of Burkitt's lymphoma in this case can be excluded.

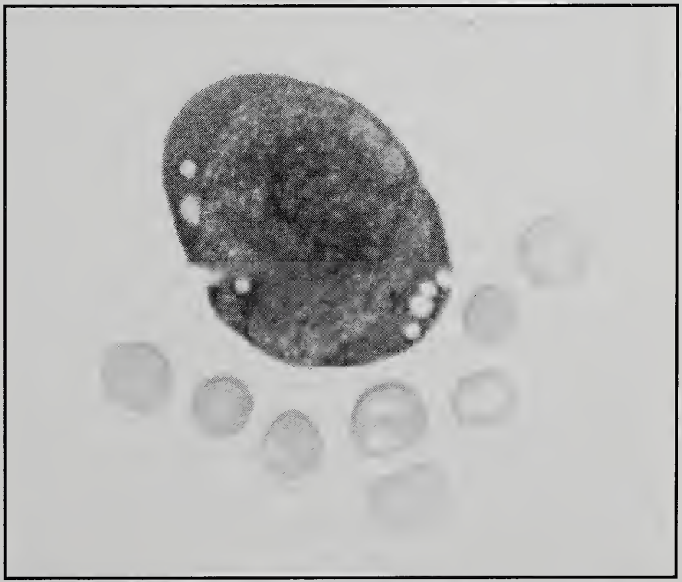

Figure 3.—Pericardial fluid cytospin smear showed very large, atypical cells with irregular, slightly eccentric nuclei, prominent nucleoli and abundant basophilic cytoplasm (May-Grunwald Giemsa x 100).

The numerous reports in the literature support the association between malignant effusions and HHV-8, especially in the setting of HIV disease. However, these findings suggest that male, HIV patients with low CD4 counts, presenting with large-cell lymphomas, in the absence or with minimal expression of B-cell associated antigens and with clonal immunoglobulin gene rearrangement, in the setting of lymphadenopathy and/or organomegaly, may benefit from HHV-8 molecular testing for diagnostic purposes.

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Mammography Utilization in a Skilled Nursing Facility

GERARD KERINS, M.D., CYNTHIA GRUMAN, PH.D., RONALD SCHWARTZ, M.D.,
ERLINDA A. RAUCH, M.D., LESLIE CURRY, PH.D., AND DENISE FOGEL, M.A.

ABSTRACT—*Objective:* To examine mammography utilization and subsequent clinical decisions in a skilled nursing facility in women aged 75 years and older with no history of breast cancer. *Methods:* This study was a retrospective medical chart review of 95 women living in a skilled nursing facility aged 75 years and older who did not have a history of breast cancer. *Results:* One-hundred seventy-nine mammograms were performed on 95 patients with an average of 1.9 mammograms per patient. Forty-five percent of the women had some evidence of abnormal results requiring further investigation. *Discussion:* Determining the utility of screening mammography in long-term care populations is essential to the development of appropriate guidelines. Future research should further explore the influence of patient preferences and psychological burden.

Objective

BREAST cancer is the most common serious health problem for women in the United States, with incidence rates increasing with age. A woman living in the United States who reaches 90 years of age has a one in eight risk of having breast cancer.[1] Projections indicate that there will be 182,899 new cases of breast cancer in U.S. women in 2000. Furthermore, 40,800 women will die of breast cancer in the same year.[2] Recent investigations have shown that incidence rates of breast cancer in women appear to level off between the ages of 45 and 50 years, increase again until the age of 75, and then decline in the years thereafter.[3]

Despite recommendations for mammograms at one or two year intervals, it is estimated that only 20% of women over 65 receive mammograms.[4] A consistent relationship between declining mammography use and increasing age has been documented in the literature.[5-7] While certain demographic, socioeconomic, health, and health-care factors (ie, race, lower income, educational level, health status, type of medical coverage) have been associated with lower rates of mammography utilization, these variables have been found to be independent of the age-associated decline in utilization rates.[7] The underutilization of mammography among older women is further supported by a study conducted on Connecticut Medicare beneficiaries age 65 and older, which revealed that only 30% of the sample obtained a mammography per year (1991–1993) and that older black women used mammography less frequently than their white counterparts.[5] Other studies have shown a relationship between increased mammography screens among older women and same day mammography availability,[8] mobile mammography units in the community,[9] and a multifaceted, community physi-

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GERARD KERINS, M.D., F.A.C.P., University of Connecticut Health Center, Geriatrics Associates, Kevin V. Dowling, M.D., Farmington Ave., Farmington; CYNTHIA GRUMAN, PH.D., M.S.W., Assistant Professor of Medicine, University of Connecticut Health Center, Associate Director, Braceland Center for Mental Health and Aging, The Institute of Living, Hartford Hospital's Mental Health Network, Hartford; RONALD SCHWARTZ, M.D., F.A.C.P., Masonic Geriatric Healthcare Center, Wallingford; ERLINDA A. RAUCH, M.D., Masonic Geriatric Healthcare Center, Wallingford; LESLIE CURRY, PH.D., M.P.H., Assistant Professor of Medicine, University of Connecticut Health Center, Director, Braceland Center for Mental Health and Aging, The Institute of Living, Hartford Hospital's Mental Health Network, Hartford; DENISE FOGEL, M.A., Research Assistant, Braceland Center for Mental Health and Aging, The Institute of Living, Hartford Hospital's Mental Health Network, Hartford.

This study was supported by the Masonic Geriatric Healthcare Center. To obtain reprints write to: Gerard Kerins, M.D., F.A.C.P., University of Connecticut Health Center, Geriatrics Associates, Kevin V. Dowling, M.D. Medical Office Building South, Suite B-210, 263 Farmington Avenue, Farmington, CT 06030-6232; (860) 679-8400; FAX (860) 679-1867.

cian office–based intervention strategy that used patient education, physician reminders, and feedback of performance rates to physicians.[10] These studies have not yet been replicated with other sample populations to determine the generalizability of these findings.

While most clinical practice guidelines, such as those issued by the U.S. Preventive Health Services Task Force, recommend screening asymptomatic women aged 50 to 70 every one to two years,[11] upper age limit specifications do not exist. The American Geriatrics Society did place a tentative upper age cutoff (ie, at least until the age of 85) for mammography screens but stressed the need for more research with this age group before determining more definitive guidelines.[12] In the same proposal, the American Geriatrics Society also noted the importance of considering individual circumstances, such as life expectancy and medical/physical conditions, in mammography screening practices for elderly women. Thus, white determining the best practice methods for mammography screening among older women is necessary for their continued health, several issues remain uncertain. For instance, research has not assessed explicitly the risks and benefits of screening in older women such as psychological morbidity,[13] radiation toxicity, and complications of unnecessary biopsies.[14] Other issues involving costs,[15] the delay before the effect of screening appears, and the high mortality from deaths other than cancer[16] also need further exploration for this age group.

Data regarding patient preferences and responses to screening mammographies are also limited.[17] One study comparing mammography between older and younger women did, however, demonstrate a significantly reduced self-reported involvement in mammography decision making among older women (aged 75 or older) *vs* women aged 40 to 44.[6] This finding was independent of age-adjusted differences such as self-reported health status, and the researchers argued that the age-associated decline in mammography use might be due to the older women's reduced likelihood of participating in mammography screening decisions. With the responsibility left to the physicians, promoting mammography screens might help compensate for the declining demand among older women. Another study compared women age 65 years and older who did and did not receive the recommended, annual mammography screens over a four-year period (1993–1997). The results showed that women in this sample were significantly more likely to have a mammogram if they believed that it offered early detection, and that physician recommendation is strongly associated with screening compliance.[18]

Several clinical trials have examined the efficacy of screening mammography in women over age 75.[13,16,19-20] However, these were all general population studies and did not include women in nursing homes. A Swedish study included women aged 70 to 74 years. Among these screened women, poor compliance with mammography screening protocols and a small, nonsignificant reduction in mortality were found.[21] Another study assessed life expectancy and cost-effectiveness for continued mammography among women aged 70 to 79 years in the general population. The results showed a small gain in life expectancy from biennial screenings, moderate cost-effectiveness for those with high bone marrow density, and screenings being most costly among those with low bone marrow density.[20] These researchers concluded that screening mammography is minimally beneficial among women aged 69 years and older due to reduced life expectancy and the existence of other mortality risks, and they argued that it is more costly to offer biennial screenings to all elderly women than to use bone marrow density to identify women who would be most benefited by continued screening.

Prudent allocation of limited resources requires scientific evidence that mammography screening in fact improves length and/or quality of life for the rapidly increasing population of women aged 75 years and older.[22] The study reported here was designed to gather the preliminary data necessary to begin to explore this issue.

Methods

This retrospective cohort study examined women aged 75 years or older living in a private, not-for-profit healthcare facility serving a predominantly white middle class population in Central Connecticut. This facility provides residential care, an acute medical and psychiatric unit, retirement apartments, and intermediate and skilled nursing facilities for 482 residents. Medicare initiated reimbursement for mammograms in 1991; this study included women who were either 75 years of age or older or who turned 75 years during the study period extending from 1991 to 1995 and who had a mammogram during this period. Approximately 450 women resided in the nursing home during this time period. Of these, 146 received a mammography. Fifty-one of the 146 women were found ineligible either by not meeting the age criteria or having a documented prior history of breast cancer. A total of 95 women were eligible for study.

Mammographies were performed through the use of a portable mammography unit which the facility contracted to utilize at regular intervals. Medical charts were reviewed to abstract the following data: demographic information, cognition, risk factors for breast cancer, prior mammography information including results and follow-up, advance directives, treatment preferences, reasons for declining treatment if applicable, and morbidity and mortality for treated and untreated groups. In addition, a one-year mortality follow-up was conducted of the women who had been discovered with breast cancer.

A series of descriptive statistics using SPSS 8.0 were computed in order to provide a profile of the study sample. Exploratory qualitative analyses were used to describe characteristics and treatments for those women who were found to have breast cancer.

Results

A total of 95 women (mean age 85.7 years) eligible for study had mammographies performed during the four-year period. All of the women lived in a skilled nursing facility and nearly one-third (30.5%) exhibited some level of cognitive impairment. Regarding risk factors, 34.7% were nulliparous, 50.8% had other personal or family history of some form of cancer, but none had a personal history of a first degree relative with breast cancer. Requests for mammographies were initiated by the physician in 98% of cases. See Table 1 for details.

Nearly all of the patients in the sample (96.0%) had some form of written advance directive in their charts. Most treatment decisions related to CPR (87.9% had DNR orders), feeding restrictions (59.9% would refuse artificial nutrition or hydration), ventilation restrictions (11.0%), or other specific treatment restrictions (11.5%).

Prevalence of Mammograms and Abnormal Results

A total of 179 mammograms were completed on 95 women during the study period, with an average of 1.9 per patient. Slightly less than half (46.3%) of the sample received only one mammogram, one-third (32%) received two, and (21.1%) underwent three or more. The majority of women (53%) did not show abnormal results on any mammogram; 47% (or 45 patients) had one or more abnormal findings during the course of the study. Abnormal results fell into three categories as shown in Table 2.

Course of Diagnosis and Treatment

Of the 45 patients with abnormal mammography results during this study, 20 had biopsies recommended. Of these, 18 women agreed to have a biopsy, and families of the two remaining patients refused due to age and comorbid factors, although data from the chart strongly suggest the patients did have breast cancer.

Among the 95 women studied, 9.47% (n=9) were diagnosed with breast cancer (Table 3). Six of these patients chose treatment and three refused. All of the women receiving treatment had either partial or total mastectomies or lumpectomies. Five received drug therapy (Tamoxifen) and one received external beam radiation.

Follow-up data revealed that three of the patients receiving treatment died of congestive heart failure, and one died from hyperthyroidism and chronic obstructive pulmonary disease (COPD). Two of those refusing treatment died, one secondary to heart disease and the other to metastatic carcinoma of the breast.

Table 1.—Patient Characteristics (N=95)

Characteristics	Percent
Age	
75–79	11.6
80–84	24.2
85–89	37.9
90–94	21.1
95+	5.3
Cognitive impairment	
No	69.5
Yes	30.5
Other family history of Ca	
No	49.2
Yes	50.8
Nulliparity	
No	65.3
Yes	34.7

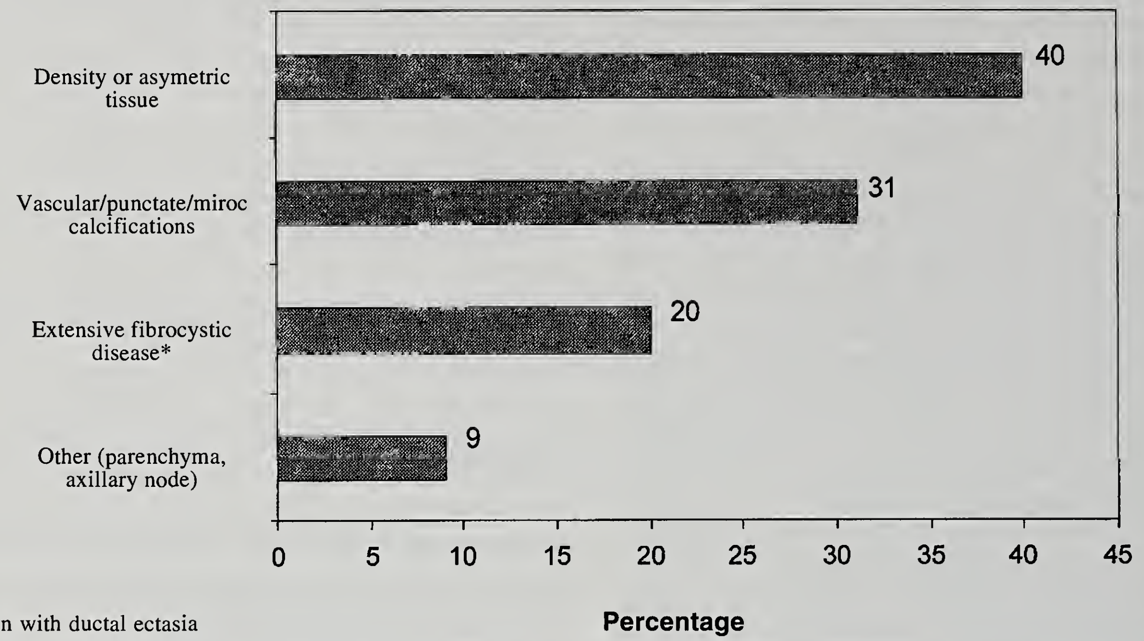
Factors Influencing Mammography

Other factors did not appear to influence the likelihood that a skilled nursing facility resident underwent mammography. For instance, the gender of the attending physician, prior risk factors for cancer, and presence of advance directives did not affect the decision to screen and/or conduct further testing. However, the results show that the ordering physician was more likely to be a female than a male for both the first and second mammography.

Discussion

Recently, much discussion has focused on the issues pertaining to screening mammography in asymptomatic older women. In particular, questions have centered on the benefit of screening mammography in older women who may face tremendous anxiety over the initial results, and then further stress when the mammography appears suspicious. As the debate around this issue intensifies, the appropriate guidelines regarding mammography in older women residing in long-term care settings becomes even less clear. The study reported here examined the use of screening mammography in a long-term care setting in Central Connecticut. A total of 95 women received 179 mammographies during the four-year study period. Almost one-half (47%) had an abnormal result that required further investigation. Only a small percentage of those with initial abnormal results opted for additional testing and treatment (27.7%), which in this group suggested a limited value of such screening. A total of nine women were discovered to have breast cancer, of which three refused treatment. In the entire study sample, one person

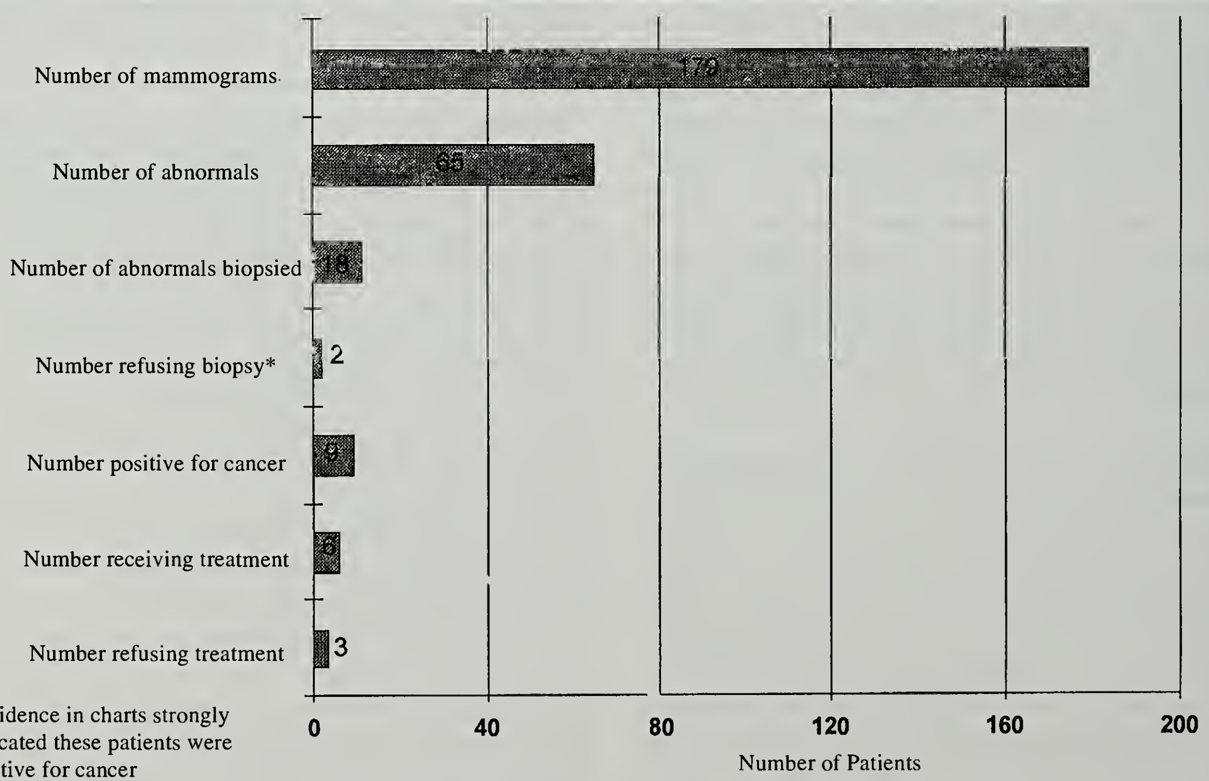
Table 2.—Abnormal Mammographic Findings Other than Breast Cancer



*Often with ductal ectasia

died of complications from breast cancer. Factors such as functional status, comorbidity, and family history did not seem to affect the screening decision. Even the presence of advance directives in 95% of the sample did not influence screening decisions. The United States Preventive Health Task Force recommends that starting at age 70, women in consultation with their physicians should make their own decisions regarding continuing mammography screening.

Table 3.—Treatment Outcomes N=95 Patients



*Evidence in charts strongly indicated these patients were positive for cancer

It was evident from this study that there is lack of a uniform policy regarding the use of mammography in the nursing home population. This lack of guidance is not surprising since there is no consensus on the treatment of healthy, community dwelling older women. One limitation of the study is the inclusion of only one site, with a small number of physicians. The findings suggest that several factors must be actively considered when determining the utility of screening mammographies in long-term care settings. Such factors include: patient and physician preferences, functional status of the patient, patient anxiety related to testing and potential follow up, and comorbid conditions. Further research exploring the relationships among these factors will help formulate appropriate guidelines for this special population.

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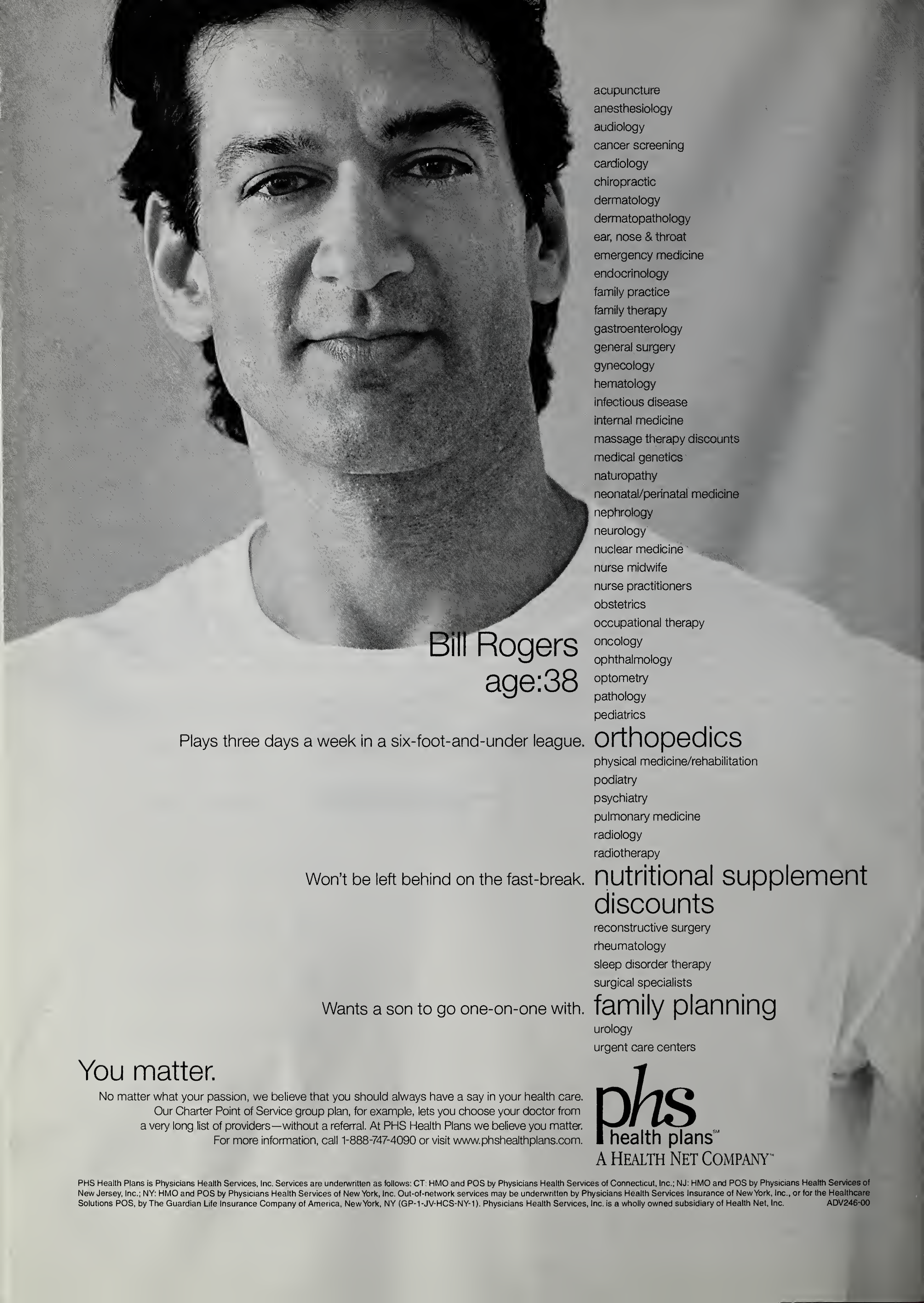

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Dofetilide (Tikosyn®)

JESSICA C. SONG, PHARM.D. and C. MICHAEL WHITE, PHARM.D.

Introduction

ATRIAL FIBRILLATION (AF) is characterized by disorganized atrial activity without identifiable p waves on the surface electrocardiogram (EKG).[1] In the U.S., AF occurs in 5.9% of adults over 65 years and is an independent risk factor for thromboembolism and stroke.[2] In recent years, the focus of pharmacologic therapy for arrhythmia suppression and treatment has shifted from Vaughan Williams class I (A and C) to class III agents. A meta-analysis of randomized, controlled trials evaluating the use of quinidine (class IA) for maintenance of normal sinus rhythm (NSR) in AF showed that quinidine therapy was associated with a three-fold increase in the risk of death.[3] Furthermore, the Cardiac Arrhythmia Suppression Trial (CAST) showed that flecainide and encainide (class IC) use in postmyocardial infarction (MI) patients with premature ventricular complexes were associated with an increased risk of mortality.[4] This article will: 1) review the place of dofetilide (Tikosyn®) in the management of AF/atrial flutter (Afl) relative to other class III agents, 2) review the use of dofetilide in clinical trials that evaluated efficacy and mortality, and 3) address therapeutic issues pertaining to its use in hospitals.

Place of Class III Agents in the Management of Atrial Fibrillation

Vaughan Williams class III agents used in AF include amiodarone (Cordarone®, Pacerone®), ibutilide (Corvert®), sotalol (Betapace AF®), and dofetilide although amiodarone is not FDA approved for pharmacologic cardioversion or maintenance of NSR in AF/Afl patients.[5-7] These agents prolong phases two and three of the monophasic action potential (AP) through inhibition of the rapid component of the delayed rectifier potassium current (I_{kr}).[6] Amiodarone also prolongs the AP duration through inhibition of the slow component of I_k while ibutilide prolongs the AP duration, in part, by enhancing the slow inward sodium current. Amiodarone and sotalol also exhibit beta-blocking properties.[6]

Clinical trials have shown amiodarone to be safe for use in heart failure patients and it has a low incidence of *torsade de pointes*.[8,9] However, its adverse effect profile may contribute to its high permanent discontinuation rate.[10] Sotalol (Betapace AF®) is indicated for maintenance of NSR in patients with symptomatic AF/Afl who are currently in sinus rhythm.[11] Since sotalol is capable of inducing *torsade de pointes*, a minimum of three days of electrocardiographic monitoring in a facility that can provide cardiac resuscitation and calculations of creatinine clearance is recommended for therapy initiation. Ibutilide is indicated for acute pharmacologic conversion of recent onset AF/Afl.[12] It is only available as a parenteral product, is associated with *torsade de pointes*, and no dosage adjustment for renal function is required.

Dofetilide is the only class III agent indicated for both acute cardioversion of AF/Afl and maintenance of NSR.[13] However, the risk of inducing *torsade de pointes* has prompted its manufacturer to mandate a minimum of three days of EKG monitoring in a properly equipped facility during therapy initiation. Also, in order to optimize dofetilide use, it is only available to institutions and prescribers who have been educated in the proper use of this drug.[13]

Clinical Trials with Oral Dofetilide

Dofetilide has been shown to be an effective pharmacologic agent for conversion to and maintenance of NSR.[14-18] Two clinical trials, EMERALD (European and Australian Multicenter Evaluative Research on Atrial

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JESSICA C. SONG, PHARM.D., Cardiovascular Therapeutics Fellow, Hartford Hospital, Department of Pharmacy Services, Hartford, Adjunct Clinical Professor, The University of Connecticut, School of Pharmacy, Storrs; C. MICHAEL WHITE, PHARM.D.,.Assistant Professor of Clinical Pharmacy, University of Connecticut, School of Pharmacy, Storrs, Co-Director of Arrhythmia and Cardiovascular Pharmacology Research, Drug Information Center, Hartford Hospital, Hartford.

This series on Drug Information Updates from Hartford Hospital are provided by the Drug Information Center, Department of Pharmacy Services, Hartford Hospital. Editors: Robert A. Quercia, M.S., R.Ph., and Moses Sing Sum Chow, Pharm.D., Editorial Board: D. Drezner, M.D., G. Gousse, M.S., R. Quintiliani, M.D., J. Laut, M.D.

Fibrillation Dofetilide) and SAFIRE-D (Symptomatic Atrial Fibrillation Investigation and Randomized Evaluation of Dofetilide) have been published as abstracts.[14,15,17,18] Table 1 summarizes the demographic data, statistically significant differences in conversion and maintenance rates between dofetilide and sotalol or placebo, incidence of *torsade de pointes*, and the dosing regimens of the EMERALD and SAFIRE-D trials.

The EMERALD study was a randomized, double-blind, multicenter trial which included subjects with AF or Afl that had persisted for one week to two years.[14,15] Patients were excluded if their QT intervals exceeded 500msec or if their QT intervals increased over 20% from baseline following the first oral dose. The dofetilide dose was reduced to once daily if renal function was impaired. The subjects were initially treated with dofetilide, sotalol, or placebo on days one through three and underwent direct current (DC) conversion if they were not in NSR by day three. The successfully cardioverted subjects continued treatment for 12 months. The acute conversion to NSR rate was nearly five-fold higher in the dofetilide 500mcg twice daily group than the sotalol group ($P<0.05$). At 12 months, subjects receiving dofetilide 500mcg twice daily had a 32% and 214% higher incidence of maintaining NSR compared to the sotalol and placebo groups, respectively ($P<0.05$ *vs* sotalol and placebo).

The SAFIRE-D trial was a randomized, double-blind, placebo-controlled multicenter study which examined the efficacy and safety of dofetilide in the conversion to and maintenance of NSR in AF/Afl patients.[16-18] The study design was similar to the one employed in the EMERALD trial. However, the duration of AF/Afl was shorter amongst the SAFIRE-D subjects; the duration ranged from two weeks to seven months. The conversion and maintenance rates observed in the SAFIRE-D trial were comparable to the rates achieved in the EMERALD study. Of note, all cases of *torsade de pointes* occurred during the first three days in the EMERALD study but after day three in the SAFIRE-D study.

To date, two randomized, double-blind, placebo-controlled trials have evaluated the effect of dofetilide on mortality in heart failure and post-MI patients.[19,20] Table 2 summarizes the demographic data, incidence of *torsade de pointes*, New York Heart Association (NYHA) classification of heart failure data, and the differences in mortality rates between dofetilide and placebo in the two clinical trials. The DIAMOND-CHF trial evaluated the effect of dofetilide on mortality in patients who were hospitalized for new or worsening congestive heart failure.[16,20] The subjects were hospitalized for a minimum of three days in order to monitor for the occurrence of *torsade de pointes*. The median follow-up time was 18 months. Patients were excluded from the study if their baseline-corrected QT interval (QT_c) exceeded 460msec. The dofetilide dose was reduced by 50% if the QT_c interval exceeded 550msec or if it increased by greater than 20% from baseline. Dofetilide was discontinued if the QT_c interval exceeded the above parameters at the minimum dose. Upon conclusion of the study, it was shown that there was no significant difference in mortality rates between the dofetilide and placebo treatment groups. However, dofetilide significantly reduced the risk of hospitalization for worsening heart failure (secondary endpoint; risk ratio, 0.75; 95% confidence interval, 0.63-0.89, $P<0.001$). In addition, 76% of all *torsade de pointes* cases occurred during days one through three.

The DIAMOND-MI trial evaluated the effect of dofetilide on mortality in patients who were hospitalized for a recent MI (two to seven days) and who had left ventricular ejection fractions below or equal to 35%.[16,20] The minimum follow-up time was one year. There were no differences in mortality rates between the dofetilide and placebo treatment groups.

Therapeutic Issues

The risk of *torsade de pointes* has prompted the manufacturer of dofetilide to establish strict guidelines on the utilization of this drug.[16] Dofetilide use is restricted to institutions and prescribers who have completed the "Tikosyn Education Program"; the program can be accessed at the website www.tikosyn.com. Alternatively, institutions and prescribers can be educated by attending a live meeting, viewing the Tikosyn video, or by reading the monograph. Upon completion of the education program, institutions and prescribers must submit the "Confirmation of Education Form for Prescribers" to the manufacturer. After the manufacturer has received the confirmation form, institutions and prescribers can access dofetilide.

Dofetilide is primarily eliminated renally (60%) through glomerular filtration and cationic tubular secretion.[13] Cimetidine, ketoconazole, prochlorperazine, megestrol, and trimethoprim (including in combination with sulfamethoxazole) inhibit tubular secretion of dofetilide; simultaneous administration of these agents will result in elevated dofetilide plasma concentrations.[13,16] Since the incidence of *torsade de pointes* increases with elevated dofetilide plasma concentrations, its use is contraindicated in patients receiving these agents.[16] In addition, concomitant administration of verapamil with dofetilide increases the incidence of *torsade de pointes*. Therefore, dofetilide use is contraindicated in patients receiving verapamil.[13] The use of agents which can prolong the QT interval (phenothiazines, tricyclic antidepressants, certain macrolides) is not recommended in patients taking dofetilide.[16] Dofetilide also undergoes metabolism by the

Table 1.—Summary of EMERALD and SAFIRE-D Trials

	EMERALD[14-16] (reported as abstract)	**SAFIRE-D[16-18] (reported as abstract)**
Dose	Dofetilide 125mcg twice daily Dofetilide 250mcg twice daily Dofetilide 500mcg twice daily Sotalol 80mg twice daily Placebo	Dofetilide 125mcg twice daily Dofetilide 250mcg twice daily Dofetilide 500mcg twice daily Placebo
# Patients	N=671	N=325
Mean age (yrs)	Not specified	67
Results	Acute cardioversion rate: Dofetilide 500mcg: 29%[*†] Sotalol 80mg: 6% Placebo: 1%	Acute cardioversion rate: Dofetilide 500mcg: 32% Placebo: 1% (p-value not specified)
	% Maintenance of normal sinus rhythm at 12 months: Dofetilide 500mcg: 66%[*†] Sotalol 80mg: 50% Placebo:21%	% Maintenance of normal sinus rhythm at 12 months: Dofetilide 500mcg: 58% Placebo: 25% (p-value not specified)
% Torsade de pointes incidence	Dofetilide 500mcg: 2.3% Other groups: 0%	Dofetilide 250-500mcg: 1.6% Other groups: 0%

[*] $P<0.05$ *vs* sotalol; [†] $P<0.05$ vs placebo

Table 2.—Summary of DIAMOND-CHF and DIAMOND-MI Trials

	DIAMOND-CHF[19]	**DIAMOND-MI[20] (reported as abstract)**
Dose	Dofetilide 500mcg twice daily[†] Placebo	Dofetilide 500mcg twice daily[†] Placebo
# Patients	N=1518	N=1510
Mean age (yrs)	70	Not specified
Primary endpoint	All-cause mortality	All-cause mortality
% NYHA class	Dofetilide: 35/56/6	Not specified
(II/III/IV)	Placebo: 39/51/7	
Results	Dofetilide: 41% mortality rate[*] Placebo: 42% mortality rate	Dofetilide: 31% mortality rate[*] Placebo: 32% mortality rate
% Torsade de pointes incidence	Dofetilide: 3.3%[††] Placebo:0%	Dofetilide: 0.9% Placebo: 0%

[†] Dose reduced to 250mcg twice daily if creatinine clearance was 40-59ml/min and to 250mcg once daily if it was 20-39ml/min;
[*] difference between dofetilide and placebo statistically insignificant;
[††] torsade de pointes incidence was 4.8% prior to change in study protocol to adjust for renal function and was decreased to 2.9% after adjusting for renal function

CYP3A4 isoenzyme of the cytochrome P450 system to a minor extent.[16] Therefore, inhibitors of this isoenzyme (eg, azole antifungal agents, protease inhibitors, serotonin reuptake inhibitors, amiodarone, diltiazem, nefazodone, quinine, zafirlukast) should be coadministered with caution since they can potentially increase dofetilide levels.[16]

Other agents which can potentially increase dofetilide levels (through inhibition of tubular secretion) include metformin, triamterene, and amiloride. Hence these agents should be cautiously coadministered with dofetilide.[16]

The protocol for the inpatient use of dofetilide employed by Hartford Hospital is more stringent than the recommendations developed by its manufacturer.[16] Prior to therapy initiation, baseline potassium and magnesium levels must be obtained from each patient. The baseline QT_c interval should be determined by the attending cardiologist using a 12-lead EKG. If the baseline QT_c interval exceeds 440msec, dofetilide cannot be used. The dofetilide dose is based on the patient's creatinine clearance (Cl_{cr}); the doses are 500, 250, and 125mcg twice daily with Cl_{cr}>60ml/min, between 40-60ml/min, and between 20-39ml/min, respectively. The QT_c interval must be measured (using a 12-lead EKG) two to three hours after the first dose; if the QT_c interval does not increase by more than 15% or if it does not surpass 500msec (550msec in patients with ventricular conduction abnormalities), the QT_c intervals measured two to three hours after each subsequent dose do not require 12-lead EKG monitoring. If the QT_c interval exceeds the above parameters, the dose should be reduced by 50%. If the QT_c interval measured two to three hours after the first adjusted dose (using a 12-lead EKG) is still above the acceptable range, dofetilide should be discontinued. If the QT_c interval is within an acceptable range following the first adjusted dose, all subsequent post-dose QT_c intervals do not need to be measured with a 12-lead EKG. All patients must be electrocardiographically monitored for a minimum of three days.

Conclusion

In summary, clinical studies have shown dofetilide treated AF/Afl patients to have conversion rates and 12 month NSR maintenance rates approaching 30% and 60%, respectively. Some data suggest that dofetilide may be superior to sotalol in converting and maintaining AF/Afl patients in NSR. Also, dofetilide appears to exert neutral effects on mortality rates in congestive heart failure and post-MI patients. Strict adherence to the guidelines established by its manufacturer should optimize dofetilide therapy while minimizing the incidence of *torsade de pointes.*

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Early-Onset Group B Streptococcal Disease—United States, 1998–1999

DESPITE recent declines, early-onset group B streptococcus (GBS) is a leading cause of neonatal sepsis, resulting in approximately 2,200 infections each year among children aged less than seven days in the United States.[1] To identify opportunities for improved prevention, the Active Bacterial Core Surveillance (ABCs)/Emerging Infections Program Network reviewed birth histories of infants with early-onset GBS disease. This report summarizes the results of this analysis and indicates that most mothers of infants with early-onset disease did not receive intrapartum antibiotics and that further declines in disease incidence are likely with better prevention efforts.

To prevent perinatal GBS disease, two strategies are recommended: the risk-based and the screening-based approach.[2–4] Under the risk-based approach, women in labor who have risk factors for GBS transmission (eg, fever, prolonged rupture of the membranes, or preterm delivery) are offered intrapartum chemoprophylaxis. Under the screening-based approach, all pregnant women are tested for GBS carriage between 35 to 37 weeks' gestation by collecting vaginal and rectal combined swabs, and GBS carriers are offered intrapartum chemoprophylaxis.

Birth histories of infants with early-onset GBS disease in 1998 and 1999 were evaluated to determine whether cases might have been prevented by either of these strategies. A case of early-onset GBS disease was defined as the isolation of group B streptococci from a normally sterile site from an infant aged less than seven days born to a resident of the ABCs surveillance area (ie, Connecticut, Maryland, Minnesota, and selected urban counties in California, Georgia, New York, Oregon, and Tennessee). To assess the quality of early-onset GBS disease intervention, surveillance staff reviewed prenatal GBS screening, risks for infection at the time of labor, receipt of intrapartum antibiotics, and infant outcome. In Connecticut, prenatal provider records also were reviewed. The incidence of early-onset disease was calculated using live birth data for 1997 from the National Center for Health Statistics.

Surveillance reports indicated 190 cases of early-onset GBS disease in 1998 and 153 cases in 1999 (Table 1). Maternal labor and delivery records were available for 181 (96%) infants in 1998 and 141 (92%) infants in 1999. The case fatality ratio was 5%. In 1999, the incidence of disease was 0.7 per 1,000 live births among black infants, 0.5 among Hispanic infants, and 0.3 among white infants. Prenatal GBS testing was documented in 104 (35%) of 322 women; 36 (35%) had a positive result (Table 2). Among the 82 women who had documented dates of screening and gestational age at delivery, 52 (63%) were screened after 33 weeks of pregnancy. GBS culture site was documented for 55 (53%) of 104 screened women; three women had vaginal and rectal combined swabs and 23 (22%) of 104 had vaginal swabs only. For 81 of 100 screened women, labor and delivery staff had access to GBS test results.

Intrapartum antibiotics were administered to 68 (21%) of 322 women who had infants with early-onset disease. Fifty-one (40%) of 128 women with a positive screen or at least one risk factor and no GBS test results received prophylactic antibiotics (Table 2). Thirty-eight (56%) of 68 women treated had fever, the most common indication among women receiving chemoprophylaxis; 15 (39%) of 38 women with fever received an initial dose of antibiotics after presenting with fever. Intravenous ampicillin, clindamycin, and penicillin were the most commonly administered antibiotics (31%, 15%, and 14% respectively). The median time between admission and delivery among women receiving antibiotics was 12.5 hours (range: 0–846 hours), and the median time between administration of the first antibiotic dose and delivery was 3.5 hours (range: 0–299 hours). Twenty-three (34%) of 68 women first received antibiotics within two hours of delivery; 40 (59%) received one dose.

Reprinted from the *Morbidity and Mortality Weekly Report,* 4 August 2000; vol.49, no. 30, Centers for Disease Control (CDC), National Institute for Health (NIH).

Table 1.—Incidence of early-onset group B streptococcal disease—Active Bacterial Core surveillance areas, United States, 1998–1999

	1998		1999	
State*	**No.**	**Incidence[†]**	**No.**	**Incidence**
California	16	0.39	14	0.34
Connecticut	21	0.49	10	0.23
Georgia	55	0.92	44	0.74
Maryland	33	0.47	27	0.38
Minnesota	28	0.43	25	0.39
New York[§]	7	0.49	1	0.07
Oregon	11	0.56	10	0.51
Tennessee	19	0.58	18	0.55
Total	190	0.55	153	0.39

*Selected counties were included in surveillance.

[†] Calculated as cases per 1,000 live births using 1997 natality data from the National Center for Health Statistics.

[§] Cases from seven Rochester counties.

Table 2.—Indications for group B streptococcal (GBS) disease among women who gave birth to infants with early-onset GBS disease—selected counties, eight states,* 1998–1999

Indication	**No. with indication**	**%[†]**	**No. treated with intrapartum antibiotics**
Previous infant with GBS	1	<1%	1
GBS bacteriuria during pregnancy	14	4%	6
Positive prenatal GBS culture	36	11%	23
Preterm delivery (<37 weeks' gestation)	64	20%	24
Intrapartum fever ≥100.4 F (≥38 C)	61	19%	38
Prolonged rupture of membranes (≥18 hours)	39	14%	15
At least one risk factor§	143	44%	51
Unscreened or no test result and at least one risk factor	92	29%	28
No indication[¶]	128	40%	59

*California, Connecticut, Georgia, Maryland, Minnesota, New York, Oregon, and Tennessee.

[†] Denominator was sometimes <322 because of missing values.

[§] Previous infant with GBS, GBS bacteriuria during pregnancy, preterm, temperature of ≥100.4 F (≥38C), or rupture of membranes for ≥18 hours.

[¶] Unscreened, no GBS bacteriuria during pregnancy, no previous infants with GBS, term delivery, temperature of <100.4 F (<38 C), and rupture of membranes for <18 hours, or no documentation of these in mothers' labor and delivery records.

Early-onset isolates were evaluated for antibiotic susceptibilities to penicillin, clindamycin, erythromycin, and cephalothin or cefazolin from 164 patients in Georgia, Maryland, Minnesota, and Oregon. All isolates were susceptible to penicillin; 32 (20%) isolates were resistant to erythromycin and 25 (15%) were resistant to clindamycin. Minimum inhibitory concentrations for cefazolin were ≤0.25 mg/mL.

Reported by: K. White, M.P.H., J. Rainbow, M.P.H., S. Johonson, B. Juni, M.S., J. Besser, M.S., C. Olson, MD, R. Lynfield, M.D., R. Danila, M.D., Acting State Epidemiologist, Emerging Infections Program, Minnesota Department of Health. G. Rothrock, M.P.H., P. Daily, M.P.H., Emerging Infections Program; A. Reingold, M.D., Emerging Infections Program and School of Public Health, University of California, Berkeley, D. Vuiia, M.D., Division of Communicable Disease Control, California State Department of Health Services. A. Roome, Ph.D., H. Linardos, M.P.H., J. Hadler, M.D., State Epidemiologist, Emerging Infections Program, Connecticut Department of Health. W. Baughman, M.S.P.H., P. Martell-Cleary, M.S.W., M. Farley, M.D., Emerging Infections Program, Veterans Administration Medical Center Emory University School of Medicine, Atlanta, Georgia; P. Blake, M.D., Acting State Epidemiologist, Georgia Department of Human Resources. M. Pass, M.S., L. Harrison, M.D., Emerging Infections Program, Johns Hopkins University School of Hygiene and Public Health, Baltimore, Maryland. J. Roche, M.D., Acting State Epidemiologist, Maryland Department of Health and Mental Hygiene. B. Damaske, S. Zansky, Ph.D., N.M. Bennett, M.D., Emerging Infections Program, New York Department of Health, P. Smith, M.D., State Epidemiologist, New York Department of Health; M. Dragoon, M.P.H., J. Donegan, Multnomah County Health Department. M. Cassidy, MT(ASCP)SM, K. Stefonek, M.P.H., P. Cieslak, M.D., Emerging Infections Program, Department of Human Services—Health Division, Portland, Oregon; M. Kohn, M.D., State Epidemiologist, Department of Human Services-Health

Division, Portland, Oregon. B. Barnes, L. Lefkowitz, M.D., Emerging Infections Program and Vanderbilt University School of Medicine; A. Craig, M.D., W. Moore, M.D., State Epidemiologist, Tennessee Department of Health. Respiratory Diseases Branch, Division of Bacterial and Mycotic Diseases, the Active Bacterial Core Surveillance/ Emerging Infections Program Network, National Center for Infectious Diseases, and an EIS Officer CDC.

Editorial Note: During 1993-1998, the incidence of GBS disease in the United States declined 65%.[1] In this report, data from 1998-1999 indicated that the incidence of early-onset GBS disease further declined in the surveillance areas (Table 1); however, the data also indicated several areas where prevention could be improved. In 1998 and 1999, of mothers of infants with early-onset disease, 21% received intrapartum antibiotic prophylaxis. Prenatal screening often was not performed at the recommended time (35 to 37 weeks' gestation), and combined vaginal and rectal swabs were rarely documented.[5] Approximately 70% of women who were unscreened and developed a risk factor did not receive intrapartum antibiotics. Many women were unscreened and did not present with risk factors at the time of labor. This suggests that some early-onset disease may have been prevented if the screening-based approach (versus the risk-based approach) had been used. Other women did not receive antibiotics until after they developed fever, suggesting that cases might have been prevented if antibiotics could have been administered earlier in the hospital admission (eg, one dose of penicillin or ampicillin at least four hours before delivery).

The findings in this report are subject to at least three limitations. First, early-onset GIBS surveillance is limited to confirmed cases of invasive disease; therefore, generalizations cannot be made from the reported data about compliance with recommended guidelines or the effectiveness of intrapartum chemoprophylaxis. Second, because information was not available on whether healthcare providers were attempting to follow the risk-based approach or the screening-based approach in specific cases, it is not possible in all instances to assess whether early-onset cases represented missed opportunities for prevention, protocol omissions, or antibiotic failures. Third, some information (eg, GBS screening culture site) was poorly documented or missing from medical charts.

Increased prevention of perinatal GBS disease has raised concern about potential adverse consequences of the increased use of intrapartum antibiotics. Penicillin resistance among GBS isolates has not been reported[6]; however, erythromycin and clindamycin resistance has increased[6,7] and has occurred in 15% to 20% of early-onset cases for which isolates were available. For women with a history of severe penicillin allergy, clinicians should request that prenatal GBS screening include susceptibility testing of GBS isolates to determine an appropriate regimen for intrapartum prophylaxis. Cefazolin should be considered when erythromycin or clindamycin resistance occurs among women with penicillin allergy.[8]

This study indicates that further declines in disease incidence are likely with full implementation of the consensus guidelines for prevention of early-onset group B streptococcal GBS disease.[2–4] Copies of the guidelines and educational materials for prenatal patients are available on the World-Wide Web, http://www.cdc.gov/ncidod/dbmd/gbs; copies may be obtained from CDC, Health Communications Activity (GBS information), Division of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, mailstop A-49, 1600 Clifton Rd., NE, Atlanta, GA 30333; after December 1, 2000, bulk orders may be obtained from Public Health Foundation, 1220 L St, NW, Suite 350, Washington, DC 20005, telephone (877) 252-1200f or by e-mail, www.phf.org.

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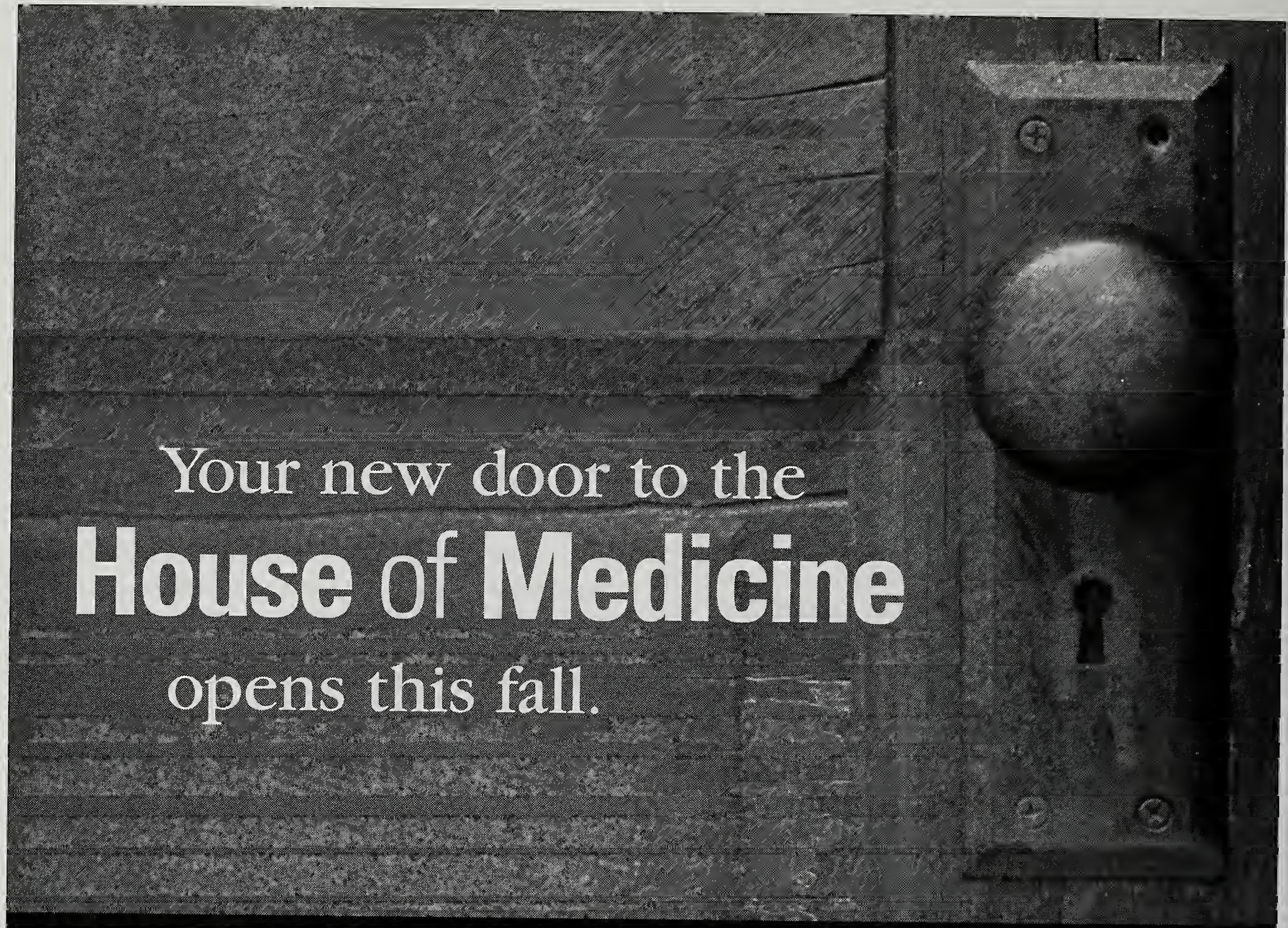

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Trends in Cigarette Smoking Among High School Students—United States, 1991–1999

ONE of the 10 Leading Health Indicators that reflect the major health concerns in the United States is cigarette smoking among adolescents.[1] To examine changes in cigarette smoking among high school students in the United States from 1991 to 1999, CDC analyzed data from the national Youth Risk Behavior Survey (YRBS). This report summarizes the results of the analysis and indicates that current smoking among U.S. high school students increased significantly from 27.5% in 1991 to 34.8% in 1999; however, the analysis also suggested that, later in the decade, current smoking may have leveled or possibly begun to decline.

YRBS measures the prevalence of health risk behaviors among adolescents through representative biennial national, state, and local surveys. The 1991, 1993, 1995, 1997, and 1999 national surveys used independent, three-stage cluster samples to obtain cross-sectional data representative of students in grades 9 through 12 in the 50 states and the District of Columbia. In 1991, 1993, 1995,1997, and 1999, the respective sample sizes were 12,272, 16,296,10,904,16,262, and 15,349; school response rates were 75%, 78%,70%,79%, and 77%; student response rates were 90%,90%, 86%, 87%, and 86%; and overall response rates were 68%, 70%, 60%, 69%, and 66%.

For each cross-sectional survey, students completed an anonymous, self-administered questionnaire that included identically worded questions about cigarette smoking. Lifetime smoking was defined as having ever smoked cigarettes, even one or two puffs. Current smoking was defined as smoking on ≥1 of the 30 days preceding the survey. Frequent smoking was defined as smoking on ≥20 of the 30 days preceding the survey. Data are presented only for non-Hispanic black, non-Hispanic white, and Hispanic students because the numbers of students from other racial/ethnic groups was too small for meaningful analysis.

Data were weighted to provide national estimates. SUDAAN was used for all data analysis. Secular trends were analyzed using logistic regression analyses that controlled for sex, race/ethnicity, and grade and that simultaneously assessed linear and quadratic time effects. Quadratic trends suggest a significant but nonlinear trend in the data over time. When a significant quadratic trend accompanies a significant linear trend, the data demonstrate some nonlinear variation (eg, leveling or change in direction) in addition to a linear trend.

The prevalence of lifetime smoking remained stable from 1991 to 1999 among high school students overall and among all sex, racial/ethnic, and grade subgroups except 10th-grade students. In 1999, 70.4% (95% confidence interval [CI]=±3.0) of all students reported lifetime smoking. Among 10th-grade students, lifetime smoking showed a significant linear trend from 1991 (68.3% [95% CI=±3.3]) to 1999 (73.9% [95% CI=±4.1]).

From 1991 to 1999, current smoking exhibited a significant linear trend among students overall and among all sex, racial/ethnic, and grade subgroups (Table 1). The overall prevalence of current smoking was 27.5% in 1991 and 34.8% in 1999. A simultaneous quadratic trend was identified for students overall, suggesting a leveling or possible decline in current smoking. The male, black, black male, and 9th-grade student subgroups also showed this simultaneous quadratic trend.

Each year, white students were significantly more likely than Hispanic students, who were significantly more likely than black students, to report current smoking (except in 1995 when white and Hispanic students were equally likely to report current smoking, but both were significantly more likely than black students to report this behavior). In 1991, white students were 2.5 times more likely than black students and 1.2 times more likely than Hispanic students to report current smoking. In 1999, white students were 2.0 times more likely than black students and 1.2 times more likely than Hispanic students to report current smoking.

Reprinted from the *Morbidity and Mortality Weekly Report,* 25 August 2000; vol.49, no. 33, Centers for Disease Control (CDC), National Institute for Health (NIH).

The prevalence of frequent smoking showed a significant linear trend from 1991 to 1999 among students overall and in all sex, racial/ethnic, and grade subgroups, except for Hispanic female students. The overall prevalence of frequent smoking was 12.7% (95% CI=±2.2) in 1991 and 16.8% (95% CI=±2.5) in 1999. Among Hispanic female students, the prevalence of frequent smoking remained stable from 1991 to 1999. For each of the five surveys, white students were significantly more likely than black and Hispanic students to report this behavior.

Reported by: Office on Smoking and Health, and Division of Adolescent and School Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: Despite a leveling or possible decline in current smoking among youth overall during the late 1990s, this trend may have been limited to selected groups (ie, male, black, black male, and 9th-grade students). In addition, frequent smoking rates overall and in all sex, racial/ethnic, and grade subgroups (except Hispanic females) were significantly higher in 1999 than in 1991 and showed no pattern of leveling or declining.

Additional research is needed to understand how current smoking rates and secular changes in these rates vary among racial/ethnic groups. For example, throughout the decade, YRBS and other national surveys found that black high school students smoked at lower rates than white and Hispanic high school students;[2,3] however, the 1999 National Youth Tobacco Survey[2] reported that current smoking rates among black middle school students were similar to rates among white and Hispanic middle school students.

Among grade subgroups, data for 9th-grade students suggested a leveling or possible decline in current smoking. Current smoking among 12th-grade students continued to rise each year. A previous study suggested that current smoking peaked among 10th and 12th-grade students in 1996 and 1997, respectively.[3] It is unclear whether future YRBS data will show a delayed peak among 10th and 12th-grade students.

The findings in this report are subject to at least three limitations. First, these data apply only to adolescents who attend high school. In 1998, 5% of persons aged 16–17 years were not enrolled in a high school program and had not completed high school.[4] Second, the extent of underreporting or overreporting in YRBS cannot be determined, although the survey questions demonstrate good test-retest reliability.[5] Finally, using only five data points

Table 1.—Percentage of high school students who reported current cigarette smoking,* by sex, race/ethnicity, and grade—Youth Risk Behavior Survey, United States, 1991-1999†

	1991		1993		1995		1997		1999	
Characteristic	%	(95% CI§)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Sex										
Female	27.3	(±3.4)	31.2	(±2.1)	34.3	(±3.2)	34.7	(±2.8)	34.9	(±2.6)¶
Male	27.6	(±3.1)	29.8	(±2.3)	35.4	(±2.4)	37.7	(±2.7)	34.7	(±3.0)¶**
Race/Ethnicity††										
White	30.9	(±3.3)	33.7	(±2.2)	38.3	(±2.7)	39.7	(±2.4)	38.6	(±3.2)¶
Female	31.7	(±4.6)	35.3	(±2.6)	39.8	(±3.5)	39.9	(±3.2)	39.1	(±3.5)¶
Male	30.2	(±3.8)	32.2	(±2.7)	37.0	(±3.3)	39.6	(±3.8)	38.2	(±3.7)¶
Black	12.6	(±2.5)	15.4	(±2.5)	19.2	(±3.2)	22.7	(±3.8)	19.7	(±4.1)¶**
Female	11.3	(±2.3)	14.4	(±2.3)	12.2	(±3.1)	17.4	(±3.9)	17.7	(±3.5)¶
Male	141	(±4.5)	16.3	(±4.2)	27.8	(±5.5)	28.2	(±6.5)	21.8	(±7.1)¶**
Hispanic	25.3	(±2.8)	28.7	(±2.9)	34.0	(±5.3)	34.0	(±2.7)	32.7	(±3.8)¶
Female	22.9	(±3.8)	27.3	(±3.9)	32.9	(±5.6)	32.2	(±2.7)	31.5	(±4.6)¶
Male	27.9	(±3.6)	30.2	(±3.4)	34.9	(±8.7)	35.5	(±3.6)	34.0	(±4.5)¶
Grade										
9	23.2	(±3.8)	27.8	(±2.4)	31.2	(±1.6)	33.4	(±5.1)	27.6	(±4.0)¶**
10	25.2	(±2.7)	28.0	(±3.3)	33.1	(±3.8)	35.3	(±4.1)	34.7	(±2.5)¶
11	31.6	(±3.8)	31.1	(±3.2)	35.9	(±3.8)	36.6	(±3.6)	36.0	(±3.0)¶
12	30.1	(±4.4)	34.5	(±3.8)	38.2	(±3.6)	39.6	(±4.9)	42.8	(±5.5)¶
Total	**27.5**	**(±2.7)**	**30.5**	**(±1.9)**	**34.8**	**(±2.2)**	**36.4**	**(±2.3)**	**34.8**	**(±2.5)¶****

*Smoked cigarettes on ≥1 of the 30 days preceding the survey.

†Linear and quadratic trend analyses were conducted using a logistic regression model controlling for sex, race/ ethnicity, and grade. Prevalence estimates were not standardized by demographic variables.

§Confidence intervals.

¶Significant linear effect ($P<0.05$).

**Significant quadratic effect ($P<0.05$).

††Numbers for racial/ethnic groups otherthan black, white, and Hispanic were too small for meaningful analysis.

makes it possible to characterize trends over the decade but difficult to accurately characterize the direction current smoking will take during the next decade.

Reducing the prevalence of current smoking among adolescents to 16% is one of the goals of the Leading Health Indicators. Achieving this goal by 2010 will require a 54% reduction in current smoking among adolescents nationwide. Data from Florida, where comprehensive tobacco-control programs have been initiated, suggest such declines are possible. From 1998 to 2000 in Florida, current smoking declined 40% among middle school students and 18% among high school students.[6]

CDC recommends that communities fully implement its "Best Practices for Comprehensive Tobacco Control Programs" by establishing comprehensive, sustainable, and accountable tobacco-control programs.[7] In addition, communities should follow CDC's "Guidelines for School Health Programs to Prevent Tobacco Use and Addiction," which recommend implementing school-based tobacco-use prevention programs in grades K-12 with intensive instruction in grades 6–8 and supporting cessation efforts for nicotine-dependant students.[8,9] Finally, comprehensive tobacco-control programs also should reduce the appeal of tobacco products, implement mass media campaigns, increase tobacco excise taxes, implement policy and regulation of tobacco products, and reduce youth access to tobacco products.[10]

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THE MEDICAL LETTER

Drugs of Choice for Cancer Chemotherapy

The tables that follow list drugs used for treatment of cancer in the United States of America and Canada. The choice of drugs in Table 1 is based on the opinions of *Medical Letter* consultants. Some drugs are listed for indications for which they have not been approved by the U.S. Food and Drug Administration. For many of the cancers listed, surgery and/or radiation therapy are also part of the management of the disease. Anticancer drugs and their adverse effects are listed in Table 2. A partial list of brand names appears at the end of the article.

TABLE 1.—DRUGS OF CHOICE

Cancer	Drugs of choice	Some alternative or additional drugs
Adrenocortical	Mitotane; Cisplatin ± etoposide	Doxorubicin Drugs for palliation of hormone hypersecretion: ketoconazole, aminoglutethimide, metyrapone
Anal	Fluorouracil + mitomycin	Cisplatin
Biliary tract	Fluorouracil ± leucovorin	Fluorouracil + doxorubicin + mitomycin (FAM); cisplatin; gemcitabine
Bladder	*Superficial:* Instillation of BCG	*Superficial:* Instillation of mitomycin, doxorubicin, thiotepa or valrubicin[1]
	Systemic: Methotrexate + vinblastine + doxorubicin + cisplatin (MVAC)	*Systemic:* Cisplatin + methotrexate + vinblastine (CMV)[2]; paclitaxel + carboplatin; gemcitsbine + cisplatin; ifosfamide with mesna; gallium nitrate
Brain		
anaplastic astrocytoma/ glioblastoma	Procarbazine + lomustine + vincristine; Carmustine-containing polymer wafer	Temozolomide[3]; carmustine; cisplatin or carboplatin
anaplastic oligodendroglioma	Procarbazine + lomustine + vincristine	Carmustine; cisplatin
medulloblastoma/ embryonal tumors	Lomustine + cisplatin + vincristine; Vincristine + cisplatin + cyclophosphamide + etoposide	Lomustine + vincristine + prednisone
germ cell tumors	Cisplatin or carboplatin + etoposide	Vinblastine, bleomycin, cyclophosphamide
primary central-nervous-system lymphoma	Intravenous high-dose methotrexate ± intrathecal methotrexate; high dose intravenous cytarabine	Blood-brain-barrier disruption with intravenous cyclophosphamide, intra-arterial methotrexate + leucovorin, and oral procarbazine and dexamethasone
Breast	*Risk reduction:* Tamoxifen[4]	
	Adjuvants[5]*:* Doxorubicin+cyclophosphamide± fluorouracil (AC or CAF) followed by paclitaxel; Cyclophosphamide + methotrexate + fluorouracil (CMF); Tamoxifen for receptor-positive and hormone-responsive	Cyclophosphamide + epirubicin[6] + fluorouracil (CEF)
	Metastatic: Doxorubicin + cyclophosphamide fluorouracil (AC or CAF); Cyclophosphamide + methotrexate + fluorouracil (CMF)	Paclitaxel; docetaxel; capecitabine; vinorelbine; mitoxantrone; epirubicin; fluorouracil by continuous infusion
	Tamoxifen or toremifene for receptor-positive and/or hormone-responsive	Anastrazole, letrozole or exemestane[7]; megestrol acetate; fluoxymesterone
	Paclitaxel + trastuzumab for tumors overexpressing HER2 protein	Trastuzumab

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Cancer	Drugs of choice	Some alternative or additional drugs
Carcinoid	Fluorouracil + streptozocin; Doxorubicin	Dacarbazine; interferon alfa For symptoms of carcinoid syndrome: octreotide
Cervix	*Locally advanced:* Cisplatin ± fluorouracil *Metastatic:* Cisplatin; Ifosfamide with mesna; Bleomycin + ifosfamide with mesna + cisplatin (BIP)	Carboplatin; fluorouracil; epirubicin; paclitaxel; doxorubicin; vinblastine; methotrexate; mitomycin; irinotecan
Choriocarcinoma	Methotrexate ± leucovorin; Dactinomycin	Etoposide + methotrexate + dactinomycin + cyclophosphamide + vincristine (EMA-CO); methotrexate + dactinomycin + cyclophosphamide (MAC); cisplatin etoposide
Colorectal	*Adjuvant:* Fluorouracil + leucovorin *Metastatic:* Fluorouracil + leucovorin + irinotecan	Capecitabine; oxaliplatin†; tegafur/uracil† + leucovorin[8] For hepatic metastases: hepatic intra-arterial (HIA) floxuridine
Endometrial	Doxorubicin + cisplatin ± cyclophosphamide; Megestrol or another progestin	Epirubicin; tamoxifen; carboplatin; paclitaxel
Esophageal	Cisplatin + fluorouracil	Paclitaxel; doxorubicin; methotrexate; vinorelbine; bleomycin; irinotecan
Ewing's sarcoma (Also Primitive neuroectodermal tumor)	Vincristine + doxorubicin + cyclophosphamide alternating with ifosfamide with mesna + etoposide	Dactinomycin
Gastric	Fluorouracil ± leucovorin	Fluorouracil + doxcrubicin + methotrexate (FAMTX) or mitomycin (FAM); infusional fluorouracil + cisplatin; etoposide; paclitaxel; docetaxel; irinotecan + cisplatin
Head and neck[9]	Cisplatin + fluorouracil or paclitaxel	Docetaxel; methotrexate; bleomycin; carboplatin; ifosfamide
Hepatoblastoma	Vincristine + cisplatin + fluorouracil; Cisplatin + doxorubicin	Etoposide; carboplatin; ifosfamide with mesna
Islet cell	Streptozocin + doxorubicin	Streptozocin + fluorouracil; chlorozotocin†; dacarbazine; interferon alfa For symptomatic relief: octreotide
Kaposi's sarcoma	Liposomal doxorubicin or daunorubicin; Doxorubicin + bleomycin + vincristine (ABV)	Vinblastine; etoposide; interferon alfa; paclitaxel; vinorelbine; alitretinoin gel
Leukemia		
Acute lymphocytic leukemia (ALL)	*Induction:* Vincristine + prednisone + asparaginase + daunorubicin or doxorubicin ± cyclophosphamide *CNS prophylaxis:* Intrathecal methotrexate intrathecal cytarabine ± intrathecal hydrocortisone) ± systemic high-dose methotrexate with leucovorin *Maintenance:* Mercaptopurine + methotrexate; High-dose chemotherapy + bone marrow infusion[10]	*Induction:* Same ± high-dose methotrexate cytarabine; pegaspargase substitution for asparaginase; teniposide or etoposide; high-dose cytarabine + mitoxantrone; Ifosfamide with mesna *Maintenance:* Same plus monthly vincristine and prednisone
Acute myelogenous-leukemia (AML)	*Induction:* Cytarabine + either daunorubicin or idarubicin ± etoposide For acute promyelocytic leukemia (APL): tretinoin ± further induction therapy *CNS prophylaxis:* Intrathecal cytarabine or methotrexate ± intrathecal hydrocortisone *Post Induction:* High-dose cytarabine ± other	High-dose cytarabine + daunorubicin or idarubicin Additional drugs for induction or post induction include vincristine, cyclophosphamide, methotrexate, mitoxantrone, fludarabine, carboplatin, topotecan, thioguanine, gemtuzumab[11]

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Cancer	Drugs of choice	Some alternative or additional drugs
Acute myelogenous-leukemia (AML) *(continued)*		
	drugs: High-dose chemotherapy + bone marrow infusion[10]	For acute promyelocytic leukemia: arsenic trioxide
Chronic lymphocytic leukemia (CLL)	Fludarabine ± cyclophosphamide; Chlorambucil or cyclophosphamide ± prednisone	Cyclophosphamide + vincristine + prednisone + doxorubicin; cladribine; pentostatin; High-dose chemotherapy + bone marrow infusion
Chronic myelogenous leukemia (CML)[12]		
Chronic phase	Interferon alfa ± cytarabine; High-dose chemotherapy + bone marrow infusion ± donor lymphocyte infusions	Hydroxyurea; busulfan; homoharringtonine[†,13]
Accelerated	Cytarabine + daunorubicin or idarubicin; High-dose chemotherapy + bone marrow infusion	Hydroxyurea; busulfan; interferon alfa
Blast phase	*Lymphoid:* Vincristine + prednisone + asparaginase + doxorubicin or daunorubicin ± cyclophosphamide + intrathecal methotrexate (± maintenance with merceptopurine + methotrexate) *Myeloid:* Cytarabine + daunorubicin or idarubicin	Azacitidine[†]; vincristine ± plicamycin; STI-571[†] High dose chemotherapy + bone marrow infusion
Hairy cell leukemia	Cladribine; Pentostatin	Interferon alfa
Liver	Hepatic intra-arterial floxuridine, cisplatin, doxorubicin or mitomycin	Doxorubicin; fluorouracil
Lung		
Non-small cell	Paclitaxel + cisplatin or carboplatin; Cisplatin + vinorelbine; Gemcitabine + cisplatin	Mitomycin + vinblastine + cisplatin (MVP); mitomycin + ifosfamide with mesna + cisplatin (MIC); docetaxel; irinotecan; cisplatin + etoposide; vinorelbine
Small cell	Cisplatin or carboplatin + etoposide (PE)	Topotecan; cyclophosphamide + doxorubicin + vincristine (CAV); paclitaxel; irinotecan; docetaxel; etoposide + ifosfamide with mesna + cisplatin (VIP); ifosfamide with mesna + carboplatin + etoposide (ICE)
Lymphomas		
Hodgkin's lymphoma[14]	Doxorubicin + bleomycin + vinblastine + dacarbazine (ABVD)	Alternating MOPP (mechlorethamine + vincristine + procarbazine + prednisone)/ABVD; Stanford V Regimen (mechlorethamine + doxorubicin + etoposide + vincristine + vinblastine + bleomycin + prednisone); High-dose chemotherapy + bone marrow or peripheral-blood stem-cell infusion
Non-Hodgkin's lymphomas		
High Grade[15]		
Burkitt's	Cyclophosphamide + doxorubicin + vincristine + prednisone (CHOP) + high dose methotrexate + intrathecal methotrexate; Cyclophosphamide + doxorubicin + vincristine + etoposide + bleomycin + methotrexate + prednisone	High-dose chemotherapy + bone marrow infusion
Lymphoblastic	Cyclophosphamide + doxorubicin + vincristine + prednisone (CHOP) + asparaginase + maintenance with methotrexate + mercaptopurine + intrathecal methotrexate ± cytarabine	High-dose chemotherapy + bone marrow infusion

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Cancer	Drugs of choice	Some alternative or additional drugs
Non-Hodgkin's lymphomas *(continued)*		
Intermediate Grade[15] Diffuse large-cell, diffuse small-cell, diffuse large-cell and small-cell, follicular large cell	Cyclophosphamide + doxorubicin + vincristine + prednisone (CHOP) ± intrathecal methotrexate or cytarabine	Other combination regimens that may include methotrexate, etoposide, cytarabine, bleomycin, procarbazine, mechlorethamine, dexamethasone, cisplatin, mitoxantrone; High-dose chemotherapy + bone marrow or peripheral-blood stem-cell infusion
Low Grade[16] Follicular small cleaved cell, follicular mixed, small cleaved and large cell	Cyclophosphamide or chlorambucil; Cyclophosphamide + vincristine + prednisone ± doxorubicin; Fluclarabine; Rituximab	Cladribine; interferon alfa; etoposide, High-dose chemotherapy + bone marrow or peripheral-blood stem-cell infusion
Cutaneous T-cell	Topical mechlorethamine or carmustine; PUVA (psoralen + ultraviolet A) Systemic chemotherapy as in other non-Hodgkin's lymphomas	Bexarotene[17]; denileukin; isotretinoin; pentostatin; fludarabine; cladribine; methotrexate; Photophoresis (extra-corporeal photochemotherapy)
Melanoma	*Adjuvant:* Interferon alfa	
	Metastatic: Dacarbazine	Dacarbazine + cisplatin + vinblastine ± interferon alfa + interleukin-2; interferon alfa; interleukin-2
Multiple Myeloma	Melphalan or cyclophosphamide + prednisone; Vincristine + doxorubicin + dexamethasone (VAD)	Vincristine + carmustine + melphalan + cyclophosphamide + prednisone (VBMCP); etoposide + dexamethasone + cytarabine + cisplatin (EDAP); high-dose dexamethasone; interferon alfa; thalidomide; High-dose chemotherapy + bone marrow or peripheral-blood stem-cell infusion ± donor lymphocyte infusions
Neuroblastoma	Doxorubicin + cyclophosphamide + cisplatin + etoposide or teniposide; High-dose chemotherapy + bone marrow or peripheral-blood stem-cell infusion followed by isotretinoin	Carboplatin; vincristine; topotecan
Osteosarcoma	High-dose methotrexate + doxorubicin + cisplatin	Doxorubicin + cisplatin + methotrexate + ifosfamide with mesna; etoposide + ifosfamide with mesna; ifosfamide with mesna + cisplatin + etoposide (ICE); dactinomycin; vincristine
Ovarian		
Germ Cell Tumor	Bleomycin + etoposide + cisplatin (BEP)	Vincristine + dactinomycin + cisplatin; etoposide + cisplatin or carboplatin
Epithelial	Cisplatin or carboplatin + paclitaxel	Topotecan; cyclophosphamide; ifosfamide with mesna; tamoxifen; melphalan; altretamine; oral etoposide; docetaxel; liposomal doxorubicin; gemcitabine; interferon gamma[18]
Pancreatic	*Adjuvant and localized unresectable:* Fluorouracil *Metastatic:* Gemcitabine	Doxorubicin; Mitomycin
Pheochromocytoma	Cyclophosphamide + vincristine + dacarbazine (CVD)	^{131}I-meta-iodobenzyl guanidine (^{131}I MIBG); streptozocin
Prostate	Gonadotropin-releasing hormone (GnRH) agonists (leuprolide or goserelin) ± antiandrogen (flutamide, bicalutamide, or nilutamide)	Mitoxantrone + prednisone; estramustine + docetaxel or vinblastine or paclitaxel; doxorubicin + ketoconazole; ketoconazole + prednisone; megestrol acetate

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Cancer	Drugs of choice	Some alternative or additional drugs
Renal	Interleukin-2	Interferon alfa
Retinoblastoma	Doxorubicin + cyclophosphamide ± vincristine ± cisplatin ± etoposide; Intrathecal methotrexate ± cytarabine ± hydrocortisone	Carboplatin; ifosfamide with mesna
Rhabdomyosarcoma	Vincristine + dactinomycin + either cyclophosphamide (VAC) or ifosfamide with mesna	Doxorubicin; melphalan; cisplatin; etoposide
Sarcomas, soft tissue (adult)	Ifosfamide with mesna + doxorubicin ± dacarbazine	Doxorubicin + cisplatin + mitomycin; vincristine; cyclophosphamide; epirubicin
Testicular	Cisplatin + etoposide ± bleomycin (PEB)	Ifosfamide with mesna + cisplatin + etoposide or vinblastine; paclitaxel; gemcitabine; High-dose chemotherapy + bone marrow or peripheral-blood stem-cell infusion
Thyroid, anaplastic	Doxorubicin; Cisplatin	
Wilms' tumor	Dactinomycin + vincristine ± doxorubicin cyclophosphamide	Ifosfamide with mesna; etoposide; carboplatin or cisplatin; High-dose chemotherapy + bone marrow or peripheral-blood stem-cell infusion

REFERENCES

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2. For patients who cannot tolerate doxorubicin.
3. Medical Letter, 41:123, 1999
4. Medical Letter, 41:1, 1999
5. Adjuvant treatment with chemotherapy and/or tamoxifen is generally recommended for all node-positive patients, and for node-negative patients with tumors > 1 cm in size or other unfavorable prognostic features. Use of tamoxifen is limited to patients with tumors that are hormone-receptor-positive or unknown. An anthracycline-containing regimen is preferred in patients with node-positive disease, or in patients with tumors that overexpress HER-2/Neu.
6. Medical Letter, 42:12, 2000.
7. Medical Letter, 42:35, 2000.
8. R Pazdur at al, Proc Am Soc Clin Oncol, 18:263a, 1999, abstract 1009.
9. The vitamin A analogue isotretinoin can control pre-neoplastic lesions (leukoplakia), and decrease the rate of second primary tumors (SE Benner at al, J Natl Cancer Inst, 86:140, 19941.
10. Patients with a poor prognosis initially, or those who relapse after remission.
11. Medical Letter, 42:67, 2000
12. Allogeneic HLA-identical sibling bone marrow transplantation can cure 30% to 70% of patients with CIVIL in chronic phase, 15% to 25% of patients in accelerated phase and <15% in acute phase. Disease-free survival after bone marrow transplantation is adversely influenced by age >50 years, duration of disease >3 years from diagnosis, and use of one-antigen-mismatched or matched unrelated donor marrow. Interferon alfa may be curative in patients with chronic phase CML who achieve a complete cytogenetic response (about 10%). Chemotherapy alone is palliative.
13. S O'Brien et al, Blood, 93:4149, 1999
14. Early-stage Hodgkin's disease with no unfavorable features may be treated with radiation alone, or with radiation plus an abbreviated course of chemotherapy (e.g. 4-6 cycles of ABVD).
15. Combined modality therapy with 3 cycles of CHOP chemotherapy followed by involved-field irradiation has been shown to be superior to 8 cycles of CHOP alone in localized intermediate or high-grade NHL (TP Miller at al, IN Engl J Med, 339:21, 1998).
16. Lymphoma of mucosa-associated lymphoid tissue (MALT) is generally treated similarly to other low-grade lymphomas. When affecting the stomach, however, it is often associated with *Helicobacter pylori* infection, and treatment with omeprazole (*Prilosec*), amoxicillin (*Amoxil*, and others) and metronidazole (*Flagyl*, and others) alone frequently is sufficient to produce a histologic response.
17. Medical Letter, 42:31, 2000
18. GH Windbichler at al, Br J Cancer, 82:1138, 2000

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TABLE 2.—TOXICITY OF SOME ANTICANCER DRUGS

Drug	Acute toxicity*	Delayed toxicity*
Alitretinoin *(Panretin* – Ligand Pharmaceuticals)	Erythema, rash, pruritis	Continued application may result in worsening acute symptoms and also edema and vesiculation
Altretamine (hexamethylmelamine; *Hexalen* – U.S. Bioscience)	Nausea and vomiting	**Bone marrow depression;** CNS depression; peripheral neuropathy; visual hallucinations; ataxia; tremors; alopecia; rash
Anastrozole (*Arimidex* – Zeneca)	Nausea; diarrhea; hot flashes; headache	Asthenia; pain (bone pain, back pain); dyspnea; peripheral edema
†Arsenic trioxide (Cell Therapeutics)	Lightheadedness; fatigue; musculoskeletal pain	Peripheral neuropathy; dysesthesias; rash; alopecia; flaccid paralysis; renal toxicity; myelosuppression
Asparaginase (*Elspar*–Merck; *Kidrolase* in Canada)	Nausea and vomiting; fever; chills; headache; hypersensitivity, anaphylaxis; abdominal pain; hyperglycemia leading to coma	CNS depression or hyperexcitability; acute hemorrhagic pancreatitis; coagulation defects; thrombosis; renal damage; hepatic damage
†Azacitidine (ladakamycin; *Mylosar*–Pharmacia & Upjohn)	Nausea and vomiting; diarrhea; fever; rash; drowsiness	**Bone marrow depression;** hepatic damage; muscle pain and weakness; possibly cardiotoxicity
Bexarotene *(Targretin*– Ligand Pharmaceuticals)	Headache, rash	Leukopenia, anemia, asthenia, hypothyroidism, hypertriglyceridemia, hypercholesterolemia, photosensitivity
BCG (*TheraCys*– Connaught; *Tice BCG* –Organon)	Bladder irritation; nausea and vomiting; fever; sepsis	Granulomatous pyelonephritis; hepatitis; urethral obstruction; epididymitis; renal abscess
Bicalutamide (*Casodex*–Zenecal	Nausea; diarrhea; hot flashes; hematuria	Gynecomastia; hepatotoxicity
Bleomycin (*Blenoxane*– Bristol-Myers Oncology, and others)	Nausea and vomiting; fever; anaphylaxis and other allergic reactions; phlebitis at injection site	**Pneumonitis and pulmonary fibrosis;** rash and hyperpigmentation; stomatitis; alopecia; Raynaud's phenomenon; cavitating granulomas; hemorrhagic cystitis
Busulfan *(Myleran*–Glaxo Wellcome)	Nausea and vomiting; rare diarrhea	**Bone marrow depression; pulmonary infiltrates and fibrosis;** alopecia; gynecomastia; ovarian failure; hyperpigmentation; azoospermia; leukemia; chromosome aberrations; cataracts; hepatitis; seizures and veno-occlusive disease with high doses; secondary malignancy with prolonged use
Capecitabine (*Xeloda*– Roche)	Nausea; vomiting	**Palmar-plantar erythrodysesthesia;** diarrhea; stomatitis; dermatitis; bone marrow depression; hyperbilirubinemia; ocular irritation and corneal deposits
Carboplatin (*Paraplatin*– Bristol-Myers Oncology)	Nausea and vomiting	**Bone marrow depression;** peripheral neuropathy; hearing loss; transient cortical blindness; hemolytic anemia
Carmustine (BCNU; *BiCNU*–Bristol-Myers Oncology; *Gliadel*– Rhône-Poulenc Rorer)	Nausea and vomiting; local phlebitis	**Bone marrow depression (cumulative) with delayed leukopenia and thrombocytopenia** (may be prolonged); pulmonary fibrosis (may be irreversible); delayed renal damage; reversible liver damage; leukemia; myocardial ischemia; veno-occlusive disease of liver after transplantation doses

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Drug	Acute toxicity*	Delayed toxicity*
Chlorambucil *(Leukeran–* Glaxo Wellcome)	Nausea and vomiting	**Bone marrow depression;** pulmonary infiltrates and fibrosis; leukemia; hepatic toxicity; sterility
†Chlorozotocin (DCNU–Dome)	Similar to streptozocin, but less nausea and vomiting	Similar to streptozocin, but **leukopenia** and **thrombocytopenia** are common
Cisplatin (Cis-DDP; *Platinol*-Bristol-Myers Oncology)	Nausea and vomiting; diarrhea; hypersensitivity reactions	**Renal damage;** ototoxicity; bone marrow depression; hemolysis; hypomagnesemia; peripheral neuropathy; hypocalcemia; hypokalemia; Raynaud's phenomenon; sterility; hypophosphatemia; hyperuricemia; anorexia
Cladribine (2-chloro-deoxy adenosine; 2-CdA; *Leustatin*–Ortho-Biotech)	Fever	**Bone marrow depression;** immunosuppression; peripheral neuropathy with high doses
Cyclophosphamide (*Cytoxan*–Bristol-Myers Oncology; *Neosar–* Pharmacia &Upjohn, and others)	Nausea and vomiting; Type I (anaphylactoid) hypersensitivity; facial burning and metallic taste with IV administration; visual blurring	**Bone marrow depression;** alopecia; hemorrhagic cystitis; sterility (may be temporary); pulmonary infiltrates and fibrosis; hyponatremia; leukemia; bladder cancer; inappropriate ADH secretion; cardiac toxicity; amenorrhea
Cytarabine HCI (*Cytosar-U*–Pharmacia & Upjohn, and others)	Nausea and vomiting; diarrhea; anaphylaxis; sudden respiratory distress with high doses	**Bone marrow depression;** conjunctivitis; megaloblastosis; oral ulceration; hepatic damage; fever; pulmonary edema and central and peripheral neurotoxicity with high doses; rhabdomyolysis; pancreatitis when used with asparaginase; rash
Dacarbazine (*DTIC-Dome*–Bayer)	Nausea and vomiting; diarrhea; anaphylaxis; pain on administration; phlebitis at infusion site	**Bone marrow depression;** alopecia; flu-like syndrome; renal impairment; hepatic necrosis; facial flushing; paresthesia; photosensitivity; urticarial rash
Dactinomycin *(Cosmegen*–Merck)	Nausea and vomiting; hepatic toxicity with ascites; diarrhea; severe local tissue damage and necrosis on extravasation; anaphylactoid reaction	**Stomatitis; oral ulceration; bone marrow depression;** alopecia; folliculitis; dermatitis in previously irradiated areas
Daunorubicin HCI (*Cerubidine–Bedford,* and others)	*Nausea* and vomiting; diarrhea; red urine (not hematuria); severe local tissue damage and necrosis on extravasation; transient ECG changes; facial flushing; anaphylactoid reaction	**Bone marrow depression;** cardiotoxicity (may be delayed for years); alopecia; stomatitis; anorexia; diarrhea; fever and chills; dermatitis in previously irradiated areas; skin and nail pigmentation; photosensitivity
Liposomal daunorubicin (*DaunoXome*–Gilead)	Less nausea and vomiting; no red urine; less local tissue damage; infusion reactions	Less cardiotoxicity; minimal alopecia
Denileukin diftitox *(Ontak-* Ligand Pharmaceuticals)	Hypersensitivity reactions (hypotension, back pain, dyspnea, rash, chest tightness, tachycardia, dysphagia); chills; fever; headache; nausea and vomiting; diarrhea; pruritis	Vascular leak syndrome (hypotension, edema, hypoalbuminemia); anemia; infection; anorexia; asthenia; increased aminotransferase activity; hypocalcernia
Diethylstilbestrol (*Stilphostrol*–Bayer)	Nausea and vomiting; abdominal cramps; headache	Gynecomastia in males; breast tenderness; loss of libido; thrombophlebitis and thromboembolism; hepatic injury; sodium retention with edema; hypertension; change in menstrual flow

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Drug	Acute toxicity*	Delayed toxicity*
Docetaxel (*Taxotere*–Rhône-Poulenc Rorer)	Hypersensitivity reactions; nausea and vomiting	**Bone marrow depression;** peripheral neuropathy; fluid retention (including generalized edema and pleural effusions); myalgia; alopecia; mucositis; cutaneous fibrosis
Doxorubicin HCI (*Adriamycin*–Pharmacia & Upjohn, and others)	Nausea and vomiting; red urine (not hematuria); severe local tissue damage and necrosis on extravasation; diarrhea; fever; transient ECG changes; ventricular arrhythmia; anaphylactoid reaction	**Bone marrow depression; cardiotoxicity** (may be delayed for years); alopecia; stomatitis; anorexia; conjunctivitis; acral pigmentation; dermatitis in previously irradiated areas; acral erythrodysesthesia; hyperuricemia; leukemia
Liposomal doxorubicin (*Doxil*–Alza)	Less nausea and vomiting; no red urine; less local tissue damage; infusion reactions	Less cardiotoxicity; minimal alopecia; palmar-plantar and acral dysesthesia
Epirubicin (*Ellence*–Pharmacia & Upjohn; *Pharmorubicin* in Canada)	Local tissue damage; red urine; nausea and vomiting; ECG changes; arrhythmias; anaphylactoid reaction	**Bone marrow depression;** alopecia; paresthesias; fatigue; cardiotoxicity; leukemia
Estramustine phosphate sodium (*Emcyt*-Pharmacia & Upjohn)	Nausea and vomiting; diarrhea	Mild gynecomastia; increased frequency of vascular accidents; myelosuppression (uncommon); edema; dyspnea; pulmonary infiltrates and fibrosis; decreased glucose tolerance; thrombosis; hypertension
Etoposide (VP-16; *VePesid*–Bristol-Myers Oncology, and others)	Nausea and vomiting; diarrhea; fever; hypotension; hypersensitivity reactions; phlebitis at infusion site	**Bone marrow depression;** rashes; alopecia; peripheral neuropathy; mucositis and hepatic damage with high doses; leukemia
Exernestane (*Aromasin*–Pharmacia & Upjohn)	Hot flashes, nausea	Peripheral edema and weight gain, fatigue
Floxuridine (*FUDR*–Roche)	Nausea and vomiting; diarrhea	**Oral and gastrointestinal ulceration; bone marrow depression;** alopecia; dermatitis; hepatic dysfunction with hepatic infusion
Fluclarabine (*Fludara*–Berlex)	Nausea and vomiting	**Bone marrow depression;** immunosuppression; CNS effects; visual disturbances; renal damage with higher doses; pulmonary infiltrates
Fluorouracil (5-FU; *Adrucil*–Pharmacia & Upjohn, and others)	Nausea and vomiting; diarrhea; mucositis; hypersensitivity reaction (rare)	**Oral and GI ulcers; bone marrow depression;** diarrhea (especially with fluorouracil and leucovorin); neurological defects, usually cerebellar; cardiac arrhythmias; angina pectoris; alopecia; hyperpigmentation; palmar-plantar erythrodysesthesia; conjunctivitis; heart failure; seizures
Fluoxymesterone (*Halotestin*–Pharmacia & Upjohn)	Nausea and vomiting	Menstrual changes; gynecomastia; androgenic effects; hepatic toxicity
Flutamide (*Eulexin*–Schering, *Euflex* in Canada)	Nausea; diarrhea; hot flashes	Gynecomastia; hepatic toxicity
Gallium nitrate (*Ganite*-SoloPak)	Hypocalcemia optic neuritis	**Hypophosphatemia;** nephrotoxicity; anemia;
Gemcitabine (*Gemzar*-Lilly)	Fatigue; nausea and vomiting	Bone marrow depression, especially thrombacytopenia; edema; pulmonary toxicity; anal pruritus

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Drug	Acute toxicity*	Delayed toxicity*
Gemtuzumab (*Mylotarg*-Wyeth-Ayerst)	Fever; chills; nausea; hypotension	Bone marrow depression; increased aminotransferase activity
Goserelin (*Zoladex*–Zeneca)	Transient increase in bone pain; transient increase in tumor mass, resulting in ureteral obstruction and/or spinal cord compression in patients with metastatic prostate cancer; hot flashes	Impotence; testicular atrophy; gynecomastia; allergic reactions
†Homoharringtonine	Hypotension; tachycardia and arrhythmias; headache; nausea and vomiting; diarrhea; hyperglycemia; fluid retention; myalgias	**Bone marrow depression;** fatigue; elevated transaminase levels
Hydroxyurea (*Hydrea*–Bristol-Myers Oncology, and others)	Nausea and vomiting; allergic reactions to tartrazine dye	**Bone marrow depression;** stomatitis; dysuria; alopecia; rare neurological disturbances; pulmonary infiltrates
Idarubicin (*Idamycin*–Pharmacia & Upjohn)	Nausea and vomiting; tissue damage on extravasation	**Bone marrow depression,** alopecia; stomatitis; myocardial toxicity; diarrhea
Ifosfamide (*Ifex*–Bristol-Myers Oncology)	Nausea and vomiting; confusion; nephrotoxicity; metabolic acidosis and renal Fanconi's syndrome; **cardiac toxicity** with high doses	Bone marrow depression; hemorrhagic cystitis (prevented by concurrent mesna); alopecia; inappropriate ADH secretion; renal failure; neurotoxicity (somnolence, hallucinations, blurring of vision, coma)
Interferon alfa-2a, alfa-2b, alfa-n3 (*Roferon-A*–Roche, *Intron A*–Schering, *Alferon-N*–Interferon)	Fever; chills; myalgias; fatigue; nausea; diarrhea; headache; arthralgias; hypotension	Bone marrow depression; anorexia; neutropenia; anemia; confusion; depression; renal toxicity; possible hepatic injury; facial and peripheral edema; cardiac arrhythmias; rhabdomyolysis
Interleukin-2 (aldesleukin; *Proleukin*–Chiron)	**Fever; fluid retention; hypotension; respiratory distress;** rash; anemia; thrombocytopenia; nausea and vomiting; diarrhea; capillary leak syndrome; nephrotoxicity; myocardial toxicity; hepatotoxicity; erythema nodosum; neutrophil chemotactic defects	Neuropsychiatric disorders; hypothyroidism; nephrotic syndrome; possibly acute leukoencephalopathy; brachial plexopathy; bowel perforation
Irinotecan (*Camptosar*–Pharmacia & Upjohn)	Nausea and vomiting; early diarrhea (<24 hours); fever	**Late diarrhea** (>24 hours); anorexia; stomatitis; bone marrow depression; asthenia; alopecia; abdominal cramping and pain
Isotretinoin (*Accutane*–Roche)	Fatigue; headache; nausea and vomiting; pruritus	**Teratogenicity;** cheilitis; xerostomia; rash; conjunctivitis and eye irritation; bone and joint pain; anorexia; hypertriglyceridemia; pseudotumor cerebri
Letrozole (*Femara*–Novartis)	Hot flashes; nausea and vomiting; headache	Peripheral edema and weight gain; dyspnea; fatigue; musculoskeletal pain; arthralgia; constipation; diarrhea; rare thromboembolic events
Leucovorin (*Wellcovorin*–Glaxo Wellcome, and others)	Hypersensitivity reactions; nausea, diarrhea	None
Leuprolide acetate (*Lupron, Lupron Depot*–TAP, and others)	Transient increase in bone pain; transient increase in tumor mass, resulting in ureteral obstruction and/or spinal cord compression in patients with metastatic prostate cancer; hot flashes; hematuria	Impotence; testicular atrophy; CNS effects; gynecomastia; peripheral edema; allergic reactions

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Drug	Acute toxicity*	Delayed toxicity*
Lomustine (CCNU; *CeeNU*–Bristol-Myers Oncology)	Nausea and vomiting	**Bone marrow depression** (cumulative) with delayed leukopenia and thrombocytopenia (may be prolonged); transient elevation of transaminase activity; neurological reactions; pulmonary fibrosis; renal damage; leukemia
Mechlorethamine HCI (nitrogen mustard; *Mustargen*–Merck)	Nausea and vomiting; local reaction and phlebitis	**Bone marrow depression;** alopecia; diarrhea; oral ulcers; leukemia; amenorrhea; sterility; hyperuricemia
Megestrol acetate (*Megace*–Bristol-Myers Oncology, and others)	Nausea and vomiting; headache	Menstrual changes; hot flashes; thrombophlebitis and thromboembolism; fluid retention; edema; weight gain
Melphalan (*Alkeran*–Glaxo Wellcome)	Mild nausea; hypersensitivity reactions	**Bone marrow depression** (especially platelets); pulmonary infiltrates and fibrosis; amenorrhea; sterility; leukemia
Mercaptopurine (*Purinethol*–Glaxo Wellcome)	Nausea and vomiting; diarrhea	**Bone marrow depression;** cholestasis and rarely hepatic necrosis; oral and intestinal ulcers; pancreatitis
Mesna (*Mesnex*–Bristol-Myers Oncology; *Uromitexan* in Canada)	Nausea and vomiting; diarrhea; allergic reactions	
Methotrexate (MTX; *Folex*–Pharmacia & Upjohn, and others)	Nausea and vomiting; diarrhea; fever; hepatic necrosis; hypersensitivity reactions	**Oral and gastrointestinal ulceration,** perforation may occur; **bone marrow depression;** hepatic toxicity including cirrhosis; renal toxicity; **pulmonary infiltrates and fibrosis;** osteoporosis; conjunctivitis; alopecia; depigmentation; menstrual dysfunction; encephalopathy; infertility; lymphoma
Mitomycin (*Mutamycin*–Bristol-Myers Oncology, and others)	Nausea and vomiting; tissue necrosis; fever	Bone marrow depression (cumulative) with delayed leukopenia and thrombocytopenia; stomatitis; alopecia; acute pulmonary toxicity; pulmonary fibrosis; cardiotoxicity; hepatotoxicity; renal toxicity; amenorrhea; hemolytic-uremic syndrome; bladder calcification (with intravesical administration)
Mitotane (o,p'-DDD; *Lysodren–Bristol-Myers* Oncology)	Nausea and vomiting; diarrhea	CNS depression; rash; visual disturbances; adrenal insufficiency; hematuria; hemorrhagic cystitis; albuminuria; hypertension; orthostatic hypotension; cataracts; prolonged bleeding time
Mitoxantrone HCI (*Novantrone*–Immunex)	Blue-green pigment in urine; blue-green sclera; nausea and vomiting; fever; phlebitis	**Bone marrow depression;** cardiotoxicity; alopecia; white hair; skin lesions; hepatic damage; renal failure; extravasation necrosis; stomatitis
Nilutamide (*Nilandron*–Hoechst Marion Roussel)	Nausea and vomiting; hot flashes; alcohol intolerance	Delayed adaptation to darkness; hepatic toxicity; gynecomastia; interstitial pneumonitis
Octreotide (*Sandostatin*–Novartis)	Nausea and vomiting; diarrhea	Steatorrhea; gallstones
†Oxaliplatin (*Eloxatine*–Sanofi-Synthelabo Research)	Pharyngolaryngeal dysesthesias; paresthesias; nausea and vomiting; rare cases of anaphylaxis (reduced systolic blood pressure, flushing, tachycardia, respiratory distress)	Peripheral neuropathy; bone marrow depression; diarrhea

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†Available in the USA only for investigational use,

*Dose-limiting effects are in bold type. Cutaneous reactions (sometimes severe), hyperpigmentation, and ocular toxicity have been reported with virtually all nonhormonal anticancer drugs. For adverse interactions with other drugs, see *The Medical Letter Handbook of Adverse Drug Interactions*, 2000.

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Drug	Acute toxicity*	Delayed toxicity*
Paclitaxel (*Taxol*–Bristol-Myers Oncology)	Hypersensitivity reactions	**Bone marrow depression;** peripheral neuropathy; alopecia; arthralgias; myalgias; cardiac toxicity; mucositis
Pegaspargase (PEG-L-asparaginase; *Oncaspar*–Rhône-Poulenc Rorer)	Similar to asparaginase	Similar to asparaginase
Pentostatin (2'-deoxycoformycin; *Nipent*–Supergen)	Nausea and vomiting; rash	Nephrotoxicity; CNS depression; **bone marrow depression;** respiratory failure; hepatic toxicity; arthralgia; myalgia; photophobia; conjunctivitis
Plicamycin (*Mithricin*–Pfizer)	Nausea and vomiting; soft tissue damage with extravasation	Bone marrow depression, especially **thrombocytopenia;** coagulopathy and hemorrhage; renal damage; hepatic toxicity
Procarbazine HCI (*Matulane*–Roche, Natulan in Canada)	Nausea and vomiting; CNS depression; disulfiram-like effect with alcohol; adverse interactions typical of a monoamine oxidase (MAO) Inhibitor	**Bone marrow depression;** stomatitis; peripheral neuropathy; pneumonitis; leukemia
Rituximab (*Rituxan*–IDEC Pharmaceutical/ Genentech)	Fever; chills; nausea; vomiting; headache; myalgia; pruritis; rash; pain at sites of disease; hypersensitivity reactions (hypotension, bronchospasm, angioedema); cardiac arrhythmias	Bone marrow depression
Streptozocin (*Zanosar*–Pharmacia & Upjohn)	Nausea and vomiting; local pain	**Renal damage;** hypoglycemia; hyperglycemia; liver damage; diarrhea; bone marrow depression (uncommon); fever; eosinophilia; nephrogenic diabetes insipidus
Tamoxifen citrate (*Nolvadex*–Zeneca; Tamofen in Canada)	Hot flashes; nausea and vomiting; transient increased bone or tumor pain	Vaginal bleeding and discharge; hypercalcemia; rash; thrombocytopenia; peripheral edema; depression; dizziness; headache; decreased visual acuity; cataracts; purpuric vasculitis; thromboembolism; endometrial cancer
Temozolomide (*Temodar*–Schering-Plough)	Nausea and vomiting; headache	Bone marrow depression, especially thrombocytopenia and neutropenia; asthenia; fatigue
Teniposide (*Vumon*–Bristol-Myers Oncology)	Severe hypersensitivity reactions; nausea and vomiting; diarrhea; phlebitis at infusion site	**Bone marrow depression;** alopecia; mucositis; rash; hepatic toxicity; leukemia
Thalidomide (*Thalomid*–Celgene)	Rash; pruritis; headache; dizziness; drowsiness; somnolence; constipation	Severe birth defects; peripheral neuropathy; neutropenia
Thioguanine (Glaxo Wellcome, *Lanvis* in Canada)	Occasional nausea and vomiting; diarrhea stomatitis	**Bone marrow depression;** hepatic damage;
Thiotepa (*Thioplex*–Immunex)	Nausea and vomiting; rare hypersensitivity reaction	**Bone marrow depression;** menstrual dysfunction; interference with spermatogenesis; leukemia; mucositis with high doses
Topotecan (*Hycamtin*–SmithKline Beecham)	Nausea and vomiting; diarrhea; headache; flu-like symptoms	**Bone marrow depression;** asthenia; stomatitis; alopecia; abdominal pain
Toremifene (*Fareston*–Schering)	Hot flashes; nausea and vomiting	Vaginal bleeding and discharge; peripheral edema; dizziness; increased aminotransferase activity; hypercalcemia; rare thromboembolic events

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†Available in the U.S.A. only for investigational use.

*Dose-limiting effects are in bold type. Cutaneous reactions (sometimes severe), hyperpigmentation, and ocular toxicity have been reported with virtually all nonhormonal anticancer drugs. For adverse interactions with other drugs, see *The Medical Letter Handbook of Adverse Drug Interactions*, 2000.

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Drug	Acute toxicity*	Delayed toxicity*
Trastuzumab (*Herceptin*–Genentech)	Fever; chills; rigors; nausea and vomiting; headache; rash; hypotension	Cardiac dysfunction, including congestive heart failure, particularly when combined with an anthracycline; diarrhea
Tretinoin (*Vesanoid*–Roche)	**Headache; xerosis;** pruritus; "retinoic acid syndrome" (fever, dyspnea, pulmonary infiltrates, pleural effusions, peripheral edema, hypotension); arthralgias; myalgias	**Cheilitis; teratogenicity;** rashes; leucocytosis; hypertriglyceridemia; pseudotumor cerebri; thrombophlebitis
Valrubicin (*Valstar*–Medeva)	Bladder irritation	
Vinblastine sulfate (*Velban*–Lilly, and others; *Velbe* in Canada)	Nausea and vomiting; local reaction and tissue damage with extravasation	**Bone marrow depression;** alopecia; peripheral neuropathy; stomatitis; jaw pain; muscle pain; paralytic ileus
Vincristine sulfate (*Oncovin*–Lilly, and others)	Tissue damage with extravasation	**Peripheral neuropathy;** alopecia; mild bone marrow depression; constipation; paralytic ileus; jaw pain; inappropriate ADH secretion; optic atrophy
Vinorelbine tartrate (*Navelbine*–Glaxo Wellcome)	Nausea and vomiting; injection site reactions (erythema, discoloration, phlebitis, pain)	**Bone marrow depression; alopecia; anorexia;** stomatitis; asthenia; peripheral neuropathy; constipation

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*Dose-limiting effects are in bold type. Cutaneous reactions (sometimes severe), hyperpigmentation, and ocular toxicity have been reported with virtually all nonhormonal anticancer drugs. For adverse interactions with other drugs, see *The Medical Letter Handbook of Adverse Drug Interactions,* 2000.

PARTIAL LIST OF BRAND NAMES

Accutane – isotretinoin
* *Adriamycin* – doxorubicin
* *Adrucil* – fluorouracil
Alferon N – interferon alfa-n3
Alkeran – melphalan
Arimidex – anastrozole
Aromasin – exernestane
BiCNU – carmustine
* *Blenoxane* – bleomycin
Camptosar – irinotecan
Casodex – bicalutamide
CeeNU – lornustine
* *Cerubidine* – claunorubicin
Cosmegen – dactinomycin
Cytadren – aminoglutethimide
* *Cytosar-U* – cytarabine
* *Cytoxan* – cyclophosphamide
DaunoXome – liposomal daunorubicin
† *DCNU* – chlorozotoin
Depo-Provera – medroxyprogesterone acetate
Doxil – liposomal doxorubicin
* *DTIC-Dome* – dacarbazine
Ellence – epirubicin
† *Eloxatine* – oxaliplatin
Elspar – asparaginase
Emcyt – estramustine phosphate sodium
Eulexin – flutamide
Fareston – toremifene
Femara – letrozole
Fludara – fluclarabine
FUDR – floxuridine
Ganite – gallium nitrate
Gernzar – gemcitabine
Gliadel – carmustine wafer
Halotestin – fluoxymesterone
Herceptin – trastuzumab
Hexalen – altretamine
Hycamtin – topotecan
* *Hydrea* – hydroxyurea
Idamycin – iclarubicin
Ifex- ifosfamide
Intron-A – interferon alfa-2b
Kidrolase – asparaginase
Leukeran – chlorambucil
Leustatin – cladribine
* *Lupron* – leuprolicle acetate
Lysodren – mitotane
Matulane – procarbazine
* *Megace* – megestrol acetate
Mesnex – mesna
Mustargen – mechlorethamine
* *Mutamycin* – mitomycin
Myleran – busulfan
† *Mylosar* – azacitidine
Mylotarg – gemtuzumab
Navelbine – vinorelbine tartrate
Natulan – procarbazine
* *Neosar*- cyclophosphamide
Nilandron – nilutamide
Nipent – pentostatin
Nolvadex – tamoxifen citrate
Novantrone – mitoxantrone
Oncaspar – pegaspargase
* *Oncovin* – vincristine sulfate
Ontak – denileukin diftitox
Panretin – alitretinoin
Paraplatin – carboplatin
Pharmorubicin – epirubicin
Platinol – cisplatin
Proleukin – interleukin-2 (alclesleukin)
* *Provera* – medroxyprogesterone acetate
Purinethol – mercaptopurine
Rituxan – rituximab
Rofaron-A – interferon alfa-2a
* *Rubex* – doxorubicin
Sandostatin – octreoticle
Stilphostrol – diethylstibestrol
Tamofen – tamoxifen
* *Tarabine* – cytarabine
Targretin – bexarotene
Taxol – paclitaxel
Taxotere – docetaxel
Tegison – etretinate
Temodar – temozolomide
Thalidomid – Thalidomide
TheraCys – BCG I ive
Thioplex – thiotepa
† *UFT* – tegafurluracil
Uromitexan – mesna
Vaistar – valrubicin
Velban – vinblastine
* *Velbe* – vinblastine
VePesid – etoposide
Vesanoid – tretinoin
* *Vincasar*- vincristine
Vumon – teniposide
Xeloda – capecitabine
Zanosar – streptozocin
Zoladex – goserelin

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*Also available generically
†Available in the U.S.A. only for investigational use.

Preferences for CPR Among the Elderly: The Influence of Attitudes and Values

HELGA HANSDOTTIR, M.D., CYNTHIA GRUMAN, PH.D., LESLIE CURRY, PH.D.,
AND JAMES O. JUDGE, M.D.

ABSTRACT—*Objectives:* While many older individuals wish to forgo cardiopulmonary resuscitation regardless of potential positive outcomes, others desire this intervention despite low chances of survival. This study examines the extent to which health, function, attitudes, and values influence preferences for cardiopulmonary resuscitation. *Design:* An in-person, physician-administered survey. Setting: Three clinical sites affiliated with a university-based geriatrics program. *Participants:* One hundred three individuals age 65 or older with ability to speak, read, and write English. *Measurements:* Demographic, health and functional status, social involvement, religiosity, attitudes, and values were assessed. A standard description of cardiopulmonary resuscitation was followed by open-ended questions regarding treatment preferences. *Results:* Mean age was 81 (±7), 66% were women and 78% had an advance directive. The majority (75%) declined cardiopulmonary resuscitation. Women were more likely to decline cardiopulmonary resuscitation. Attitudes toward life were the strongest predictors for the cardiopulmonary resuscitation decision. Family issues were important, especially the prospect of becoming a burden, as well as the outcome of cardiopulmonary resuscitation. *Conclusion:* Attitudes toward life, perceived outcome of cardiopulmonary resuscitation, and family issues play a significant role in end-of-life treatment decision-making.

RESEARCH has shown that the wishes of seriously ill patients regarding end-of-life treatment often are not respected and that patients may receive more aggressive treatment than wanted.[1] Major policy and education efforts have been directed toward enhancing patient autonomy, including the Patient Self-Determination Act.[2]

These initiatives are intended to help patients and physicians communicate about preferences for medical care at the end-of-life. A number of studies have described the preferences for cardiopulmonary resuscitation (CPR) and other life-sustaining measures among older persons. Although results vary depending on the hypothetical scenarios presented to respondents, 5% to 10% of older adults desire aggressive treatment irrespective of outcome.[3–7] Other studies have found that 90% of those over 65 would opt for life-sustaining treatment if chances of complete recovery were good.[5,6] Conversely, an estimated 25% refuse CPR even if there is a reasonable chance of survival.[3] The language used in describing the scenarios may influence preferences the same way as does prognostic information, in that more positive wording leads the patient to choose treatment.[8,9]

While outcome of the hypothetical situation is an important determinant of preferences for life-sustaining treatment, other evidence suggests that gender, education, and race significantly affect preferences. Whites, women, and

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HELGA HANSDOTTIR, M.D., Sjukrahus Reykjavikur, Fossvogi, Iceland; CYNTHIA GRUMAN, PH.D., M.S.W., Braceland Center for Mental Health and Aging, Institute of Living, Assistant Professor of Medicine, Department of Medicine, University of Connecticut Health Center; LESLIE CURRY, PH.D., M.P.H., Braceland Center for Mental Health and Aging, Institute of Living, Assistant Professor of Medicine, Department of Medicine, University of Connecticut Health Center; JAMES O. JUDGE, M.D., Vice President, Medical Affairs, Masonicare, Inc., Wallingford.

Author's Note: This research was completed as part of Dr. Hansdottir's Geriatrics Fellowship Training at the Center on Aging, University of Connecticut. Request for Reprints: Helga Hansdottir, MD, Sjukrahus Reykjavikur, Fossvogi, 108 Reykjavik, ICELAND; (011) (354) 551-1269; email helgah@shr.is those who are well educated are more likely to decline CPR.[7,10,11] Elderly individuals have attributed their preferences to personal values, religion and experience of illness.[12] Religiosity has been associated positively with a desire for more aggressive treatment.[7,11] Those who place greater emphasis on quality of life over quantity of life are more likely to request less aggressive treatment.[7,11,12]

The aim of this study is to explore the possible determinants of preferences for CPR with a qualitative/quantitative integrated methodology. Understanding the older patient's concerns regarding end-of-life decisions can assist the clinician to frame discussions appropriately and present a range of relevant care options.

It was hypothesized that certain demographic features, health and function, social involvement, religiosity, values, and attitudes each may play a role in defining preferences for CPR. Quantitative measures were gathered as well as qualitative data that explored important considerations in CPR decisions.

Methods

Study design and recruitment.—In order to ensure sufficient variation on characteristics of interest, individuals 65 and older were interviewed at three purposefully selected clinical sites affiliated with a university geriatrics program: a nursing home with Jewish religious association; two independent living communities with a Christian religious association; and an internal medicine and geriatrics practice at a university hospital (n=103). Inclusion criteria included: age of 65 and older, ability to speak, read, and write English. Exclusion criteria included: aphasia, dementia defined as >20 errors on Short-Blessed-Memory-Concentration-Orientation test, visual or auditory impairment which would preclude participation such as inability to read 14-point font or to hear well enough for a conversation. At the nursing home site, a member of the research team (HH) approached residents directly to invite them to participate. Subjects were interviewed after a consent was obtained. Eighty-five people were approached and 36 (42%) were interviewed, 25 declined, and 24 were excluded on basis of inability to communicate either because of vision (n=10), hearing (n=5), cognitive status (n=7), or language (n=2). A total of 810 letters of invitation were sent to people living in the senior communities and patients listed by the university practice. Sixty-seven individuals (8.3%) volunteered and were interviewed, none met exclusion criteria. This significantly lower response rate is likely a result of the differing method of recruitment (mail survey *vs* personal invitation by physician). It may also reflect a generally healthier population that is not particularly concerned with end-of-life issues and may therefore be less motivated to participate in the study. Because of these potentially biasing factors, living arrangement was not examined as a predictor variable.

Measures.—Demographic data, information on health and function, religiosity, social involvement, and presence of a living will were collected. Demographic data included age, gender, marital status, education, race, and living arrangements. Health data included self-rated health[13] and the presence/absence of five common diseases which are associated strongly with disability in old people and are common causes of death.[14] The following additional variables were measured: depressive symptoms,[15] optimism,[16] cognitive status,[17] functional status,[18] religiosity,[19] and social involvement.[20]

A standard description of CPR was provided, including a range of survival possibilities, as follows: For those in poor health an estimate of efficacy of 0% to 5%, for average health 10%, and if in a hospital during a heart attack up to 25%.[21–23] The question on CPR was modeled on the Emanuels' directive.[24] Responses were coded "yes," "no," and "unsure."

An open-ended question was asked regarding important considerations for the individual in deciding whether or not to request CPR. This method of questioning was preferred to a closed-ended item format in order to gather richer descriptive data. Given the exploratory nature of the question, failure to include open-ended statements might lead to premature closure.

Respondents were asked to rate 10 value items on a four-point scale (very important, somewhat important,or not important). A subset of these items was drawn from Doukas and McCullough[25] values history. Finally, respondents were asked whether or not they agreed to 10 statements reflecting attitudes toward life and death and factors found to be important to end-of-life decisions in other studies.[11,26,27] The interview was pilot tested for length, format, and clarity on four individuals and refined accordingly.

Data analysis.—A three-stage statistical strategy was undertaken in this study. First, a preliminary exploratory analysis was performed to examine the distribution of the sample across the independent variables in the study. The data were simplified by eliminating extraneous variables and by reducing the number of categories of multicategorical variables. Nominal and ordinal variables such as education level, marital status, self-rated health, religiosity, and social involvement were collapsed to create dichotomous variables when appropriate and were tested by chi-square. The values responses were dichotomized to: very and somewhat important (=1) and not important (=0). The attitudes were rated as agree (=1), don't agree (=0); unsure answers were treated as missing information. Second, the distribution of the responses of the sample to the primary outcome variable was examined. Differences between groups were analyzed using chi square and one way ANOVA for categorical and continuous data respectively.

The final stage of the statistical strategy was the analysis of open-ended questions using qualitative methods. Categories were identified, defined, and the answers then classified. Data analysis used a strategy similar to that suggested by McCracken.[28] Responses to the open-ended questions were recorded directly by the interviewer. Major concepts, supported by direct quotations, were organized into several common themes central to the CPR decision. All data were analyzed using SPSS Windows Release 8.0 and Stata Release 5.0.

Results

Demographic characteristics of the sample are provided in Table 1. Correlates of CPR preferences are displayed in Table 2. Three-quarters of respondents refused CPR. Women were significantly less likely to choose CPR than were men ($P<0.001$). The following variables had no significant impact on the CPR decision: health status; self-rated health; ADL function; religious denomination; religiosity; depressive symptoms; optimism; social involvement; mild dementia, or the presence of a living will.

Values and attitudes.—Rating of attitudes toward life and death and their influence on preferences for CPR are reported in Table 3. Those who wanted to live as long as possible were significantly more likely to opt for CPR ($P<.004$), while those who feared death were significantly less likely to decline CPR ($P<.09$). Readiness to die was strongly correlated with not wanting CPR ($P<.003$). Those who agreed that recovery mattered most in the CPR decisions were significantly more likely to choose CPR ($P<.03$). Especially striking was that almost all (96 of 103) rated not becoming a burden as very important.

Qualitative findings.—A number of themes reflecting important considerations were identified through content analysis. Recurrent themes and illustrative quotes include the following. Outcome of CPR (64% of respondents provided a comment related to CPR outcomes including suffering)—"If I have a stroke and am lying there like a zombie, I don't want to be kept alive." Attitudes toward life and death (60%)—"When I can't enjoy life, there is no point in living." "I am satisfied with my life, avoid lingering." A desire to live longer was mentioned by 11 of 13 who opted for CPR. Family concerns (42%)—"Anguish to the family, prolonging their difficulties with no reasonable purpose." Decision-making authority (10%)—"The doctor is the key person, I would rely on what he said." Experience with end-of-life decisions (19%)—"My brother in law was afraid of dying, we kept him going too long." Financial concerns (14%)—"Financial considerations, I will run out of money." Religion (8%)—"Something God does, no one should interfere." Finally, societal issues (4%)—"I'm taking space and products."

Table 1.—Demographics

	No of Years.	%
Mean age (SD)	81	(±7)
Female	68	66%
College educated	78	76%
Living will	80	77%
Married	41	40%
Religion		
Protestants	48	47%
Catholic	13	12%
Jewish	34	33%
Other	7	7%
Living arrangements		
Community	32	31%
Independent living	37	36%
Nursing home	34	33%
Independent in ADL	41	40%
Normal Blessed mental status	82	80%
Depression absent	80	78%
Excellent/good self-rated health	77	75%

Discussion

In this sample of older adults, the majority (75%) declined CPR. These findings are comparable to previously reported studies of community-dwelling individuals[3,7] yet differ from report of nursing home residents who were more likely to desire CPR.[10] White and well-educated people have been found to be less likely to opt for aggressive end-of-life care than those who have less education and who are black.[7,11] Our sample was almost exclusively white and the majority had a college education which could partly explain refusal of CPR.

Although the average age was 81 years, respondents were mostly in good physical health. Women are much more likely to decline CPR than men, a finding which has been reported in other studies.[5,7,10] Gender differences regarding CPR preferences are probably a consequence of differences in attitudes toward end-of-life issues. In this study, women (82%) were more likely than men (48%) to value quality of life even though it means not living as long ($P < .001$).

Identification of attitudes toward life and death that correlate strongly with preferences for CPR is perhaps the most important result of this study. Valuing quantity of life is the strongest predictor for wanting CPR which is

Table 2.—Correlates of CPR Decision

		CPR Yes N = 13	**CPR No N = 78**	**Unsure N = 12**	**Significance**
Age (mean age)		81.5	81.0	79.5	*P*=.097
ADL dependency	0 ADL	6	31	4	
	1 ADL	7	47	8	*P*=.807
Gender	Women	4	58	6	
	Men	9	20	6	*P*=.004
Living will	Yes	8	63	9	
	No	5	15	3	*P*=.296
Depression	Yes	1	19	3	
	No	12	59	9	*P*=.398
Very/fairly religious	No	8	51	10	
	Yes	5	26	2	*P*=.440

consistent with other studies asking similar question.[7,12] In addition, the majority of those who want CPR state they want to live longer (11 of 13) and to be significantly more likely to agree that recovery matters most. This suggests that those who opt for CPR hope to live longer and to recover from the illness that led to the use of CPR. On the other hand, those who do not desire CPR are likely to say they are ready to die (37 of 78), and discuss their views on their life and mortality (47 of 78) in the open ended questions. Many of those who discussed their views on life

Table 3.—Values and Attitudes Correlated with CPR Decision

		CPR Yes N = 13	**CPR No N = 78**	**Unsure N = 12**	**Significance**
I want to live as long as possible, irrespective of the quality of life	yes	6	15	5	
	no	5	59	5	*P*=.004
I want to preserve good quality of life, even if I might not live as long	yes	11	69	10	
	no	2	6	1	*P*=.265
I am ready to die	yes	1	34		
	no	9	29	9	*P*=.003
I fear death	yes	2	10		
	no	8	59	5	*P*=.090
I hope for afterlife/heaven	yes	6	35	7	
	no	5	26	2	*P*=.480
It's God/fate that determines the time of death	yes	7	49	8	
	no	4	15	1	*P*=.415
Experience affected my choice	yes	3	29	6	
	no	8	40	5	*P*=.429
Recovery matters most	yes	7	33	8	
	no	0	31	4	*P*=.038
My families wishes affected my choice	yes	4	16	5	
	no	6	53	5	*P*=.142

All variables coded yes=1, no=2

and death mention satisfaction with their past life; others mentioned being ready to die or their life being over. This suggests that these individuals have come to terms with their mortality and don't want to risk suffering at the end for slight chances of recovery. As might be expected, outcome of CPR was mentioned more often than any other category identified in the open-ended questions equally among those who wanted CPR as those who didn't. It may be that the likely outcome is the most important factor in end-of-life considerations, yet how information is perceived individually depends on the their view on their life, past and future. As no other study has asked "are you ready to die?" directly, further research is needed to determine whether other populations would answer this question the same way. Those who fear death are less likely to decline CPR. There are only 16 individuals who fear death, indicating that fear of death is not a major issue for most but for those who do, it is an important consideration. Consistently, Cicirelli found that fear of death contributed significantly to decisions on end-of-life treatment beyond demographic and health-related variables.[11]

Relationships with others are relevant to end-of-life treatment issues, as presented by the open-ended questions and value statements. A high number of individuals rated not becoming a burden as an important consideration. Other studies have found similar results with regard to burdening loved ones, when asked directly,[29] and qualitative studies have similarly found a high number of respondents mentioning burdening loved ones as an important consideration.[27,30,31] In this study, the effect of the use of CPR on loved ones was the third most important category mentioned in the open-ended question, but social involvement, measured as number of contacts, and feelings of loneliness had no impact upon the CPR decision.

The major limitation in this study is the fact that the majority of respondents were white and well educated. The potential for selection bias is quite high, particularly among the respondents recruited from the community. A second weakness of this study is the use of sites with religious affiliation, making it hard to separate the effects of religion and health on attitudes. There is a high percentage of individuals who made a living will, indicating previously thought out end-of-life matters, which may reflect a selection bias, as those who have made a living will might be more comfortable in discussing end-of-life issues.

The main strength of this study is the use of both quantitative and qualitative methodologies to gather comprehensive data not previously examined. This methodology has allowed us to speculate on how decisions regarding end-of-life are made. While these insights do not allow firm conclusions to be drawn, they do suggest a number of areas appropriate for future research. The results suggest that attitudes toward life are the strongest predictors for decisions regarding CPR. Perceived outcome of CPR and family issues play a significant role in end-of-life treatment decision-making.

Appendix

Standard description on CPR.—Next I want to talk to you about CPR. CPR or cardiopulmonary resuscitation is used when somebody's heart stops. Cardiac massage is used to keep the blood flowing, electric shocks can be given to restore the heart's rhythm, medication may be given, and a breathing machine may be hooked up to help breathing. CPR sometimes restores the heart beating but most of the time it is unsuccessful. For people who suffer from chronic diseases the likelihood of survival is small—only 0% to 5%. Overall the survival is about 10%. If the heart stops in the hospital during a heart attack survival rates can be higher, up to 25%.

Preferences for CPR were assessed by the question; "At the point of dying, would you want your doctor to use drugs and electric shock to start the heart beating and to use artificial breathing?" Right after the preferences for CPR were elicited, open-ended questions were asked: "When you made the choice to have/not have CPR, what was important to you? What where the things you considered?" Answers were written down and when subjects were done the probe, "Does anything else come to mind?" was used.

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50 Years Ago

From *The Connecticut State Medical Journal*

October 1950

American Medicine Looks Ahead

ELMER L. HENDERSON, M.D., *Louisville, Kentucky*
President, American Medical Association

MY subject this evening is "American Medicine Looks Ahead." First, however, I should like to dwell for a minute or two on past and present accomplishments for which credit is due.

I want to pay tribute to the achievements and standards of the Yale University School of Medicine, one of the great and respected names in medical education. The work of your school, and the accomplishments of your graduates, have contributed brilliantly to the history and progress of American medicine. The Yale School of Medicine, physically and spiritually, represents American values which must be saved and perpetuated.

I also want to pay my respects, and say my "thank you," to the Connecticut State Medical Society the individual doctors of Connecticut and the members of your Woman's Auxiliary, for the work which all of you have done in the National Education Campaign. Since the campaign began in January, 1949 you always have shown an excellent spirit of cooperation, and I am counting on you for a continued, expanded effort during the vitally important weeks and months that lie ahead.

And to both of you—the Connecticut State Medical Society and the Yale School of Medicine—I want to express my praise and commendation for your joint sponsorship of the annual Connecticut Clinical Congress. I understand that this three day, intensive postgraduate program attracts some seven or eight hundred registrants each year. During my many travels in the past, I have heard frequent comment on the excellence and value of your annual program.

As the product of initiative and cooperation on the part of practicing physicians and a great medical school, your Connecticut Clinical Congress typifies the spirit and the methods which have brought this Nation world leadership in medicine. It is another fine example of how free Americans work for improvement and progress.

But allow me, for a moment, to turn from tributes and compliments on work well done. It seems that you and your medical colleagues in America have aroused anything but a favorable, loving reaction in some quarters. Let me deflate your collective ego, at least temporarily, by telling you the opinion of *The Nation,* one of this country's less conservative weekly magazines.

In a recent summer issue, that journalistic guardian of what it conceives to be democracy and true liberalism, said of you and your professional brethren:

"Let's face it. Doctors are getting too big for their little black bags."

Then, with great cleverness, wit and facility of expression, the article pointed out rather wistfully that doctors used to be content to peer down their patients' throats, to behave in general like Dr. Christian and Dr. Kildare, and, above all, to be seen and not heard on the vital political issues of the day.

With left-handed condescension the magazine did admit:

Reprinted from the *Connecticut State Medical Journal*, October 1950.

Delivered before the Connecticut Clinical Congress September 13, *1950 at New Haven.*

"Doctors have their rights, of course, and political ignorance should no more bar them from electioneering than it bars oil men or rent gougers."

Finally, after additional clever rhetoric, *The Nation* article diagnosed medicine's fight against Compulsory Health Insurance as "the current epidemic of Practitioners' Pip," an ailment which the magazine predicted will be of short duration.

If you now have not been sufficiently chastised, for discarding the policy of inaction, and if you now have not been put in your proper place, along with rent gougers, I fear that you are hopelessly incorrigible.

But seriously, the article which I have been quoting, provides material for careful thought, as "American Medicine Looks Ahead." For that article, despite its flippancy and superficiality, reveals much between the lines of deceptively humorous writing.

It shows the ill-concealed surprise and anger of all those who resent the fact that American doctors have united to become an aggressive, fighting force in the public affairs of their own country.

It shows the irritation resulting from the practical success of our National Education Campaign—a campaign in which we simply have gone directly to the American people with the facts about political medicine and all of its broader implications.

It shows the continued willingness of our opponents to resort to smear tactics, ridicule, name calling, and similar maneuvers indicating an almost psychotic sense of frustration.

It shows, finally, the wishful thinking of those who believe, and hope, that medicine's unity will not last—that doctors will relax their vigilance and their effort—that the advocates of Government controlled medicine eventually will triumph, by hook or crook.

In view of these facts—especially the temper and tactics of some of our opponents—the medical profession, at this critical point in American history, faces a task of great magnitude. It is a task that will require double effort, double vigilance and double victory.

Our first responsibility, as doctors, is to serve the health and medical needs of all Americans—in civilian life or in the armed forces, on the home front or on the battlefront—wherever and however we are most capable of serving. It goes without saying that we medical men never will allow events of the past to interfere with patriotic duties of the present.

Our second responsibility, as citizens in the arena of public affairs, is to dispel completely any notion that our crusade against socialized medicine is merely a temporary outburst—in the nature of an epidemic or a flash flood. In this phase of our double task we must maintain and strengthen our professional unity—we must continue our direct, successful contact with the American people-we must be alert to the maneuvers and machinations of the home front socializers—and, above all, we must not be decoyed out of our position on the basic issue of freedom for medicine, and freedom for all America. Quite to the contrary, we must make that position strong and crystal clear.

For now—with our own Nation once again emerging as the chief defender of freedom, in a world of tension and danger—medicine's cause has greater validity and greater significance than ever before. If Americans are to work and fight in the name of freedom elsewhere in the world, logic demands that we preserve freedom in our own country. If there is to be practical meaning and moral purpose' in the sacrifices of our fighting men abroad, then it becomes a National duty to guard basic American principles here at home. Any other course would be a tragic betrayal of both men and principles.

Fortunately, at this time of emergency, the American people are rallying to that point of view. As patriots, they naturally accept the necessity for temporary controls, limitations and directives during a period of National crisis. But they also recognize that a threat to basic American freedom already existed in this country, prior to the present war emergency. As a result, there has been an ever increasing sense of vigilance—a growing awareness of danger.

We can be proud of the fact that medicine's National Education Campaign has played a major role in alerting the American people to the internal threat. In that campaign, since January, 1949 the Nation's doctors have gone directly to the American public with the facts about Compulsory Health Insurance—how it would affect the quality of medical care, the National health, the taxpayer's pocketbook and, ultimately, the foundational structure of all American life. At the same time, the campaign has stressed the positive story of American medical progress, the growth of Voluntary Health Insurance, and the overall vitality of a National philosophy based on individual initiative and freedom of action.

As a result of that effort—carried out openly in the arena of public opinion—more than 10,000 National, State and local organizations, with many millions of members, have taken positive action against Compulsory Health Insurance, or any other form of socialized medicine. Moreover, they have recognized that socialized—medicine would be only the precedent—the first step—the infiltration maneuver—leading to the eventual death of the free enterprise system.

Medicine's campaign, winning a massive cross-section of public support, has spearheaded and stimulated an ever broadening opposition to all forms of State Socialism in

America. It has given courage and inspiration to thousands of individuals, organizations and groups who also like the American way of doing things. It has helped to rekindle a pride in the American past, a faith in the American future.

We can be thankful that this situation exists, especially now that the tragic possibility of a third world war looms on the horizon. But at the same time we cannot be lulled by past success. We must face the fact that a clear and present danger still exists here on the home front. That danger is the trend toward State Socialism—a trend which has been exposed but not eliminated, slowed but not stopped.

It is therefore imperative, in my opinion, that both doctors and laymen keep in mind the dismal lessons of recent history, and the unpleasant facts of the present. In other words, we must watch both the forest and the trees.

The lessons of history are that both World War I and World War II set the stage for drastic internal changes in many Nations. In a number of cases, those changes either killed or restricted freedom. The First World War, for example, was the catalyst for the development of Russian Communism, Italian Fascism and German Nazism. The second World War, more recently, brought the emergence of Socialism in freedom-loving Britain, the fall of the Iron Curtain on the European Continent and the surge of Communism in China and other Asiatic countries.

The unpleasant facts of the present are that today—behind the scenes right here in America—there are people who would like to change the basic structure of this Nation. Lurking in the background of American life there are—as I said in my San Francisco inaugural address—"little men whose lust for power is far out of proportion to their intellectual capacity, their spiritual understanding, their economic realism or their political honesty."

These men of little faith in the American people I pointed out in my presidential address—seek socialized medicine only as a first goal. Their real objective is to gain control over all fields of human endeavor and make this a Socialist State.

In that connection I should like to repeat one more statement I made in San Francisco. It is this:

"There is only one essential difference between Socialism and Communism. Under State Socialism human liberty and human dignity die a little more slowly, but they die just as surely!"

Keeping in mind all of these factors—the lessons of the past and the realities of the present—there can be only one logical course of action, for us doctors and for all Americans who value freedom. That is a continued, vigorous, expanding mobilization of faith—a spiritual rallying of all those who believe in the American way of life and are determined to preserve it—a constant vigilance that will make this Nation invulnerable to all enemies of freedom, wherever they are.

To help bring about such a sweeping reaffirmation of faith—a rousing people's mandate for Americanism—will be the primary objective of medicine's Nationwide advertising program in October. Utilizing every bona fide daily and weekly newspaper in the country, some 30 National magazines and more than 1,000 radio stations, that program will carry our message of freedom to every American. Also participating, with paid space of their own, will be thousands of individuals, companies and groups whose advertising will echo the same basic theme. I urge all of you to do everything you can to help this major effort become a history making success.

Another vitally important phase of the action which I consider necessary, is the participation of individual doctors in the elections this fall. Many doctors all over the country already are exercising their political rights as individual citizens. Regardless of their previous party affiliations, they are working actively for all candidates—whether Democrats, Republicans or Independents—who sincerely believe in fundamental American liberties, and who are determined to preserve those liberties. Again, for the sake of freedom in medicine, and freedom in the entire American future, I urge all of you to do likewise.

For we find, as American medicine looks ahead in this period of world danger, that we no longer can confine ourselves to a long-range view—that we no longer can think only in terms of scientific and professional progress. We find that before American medicine can move ahead to the great accomplishments which will be possible in future decades, it first will be necessary to concentrate on an urgent, immediate task. That task is to safeguard freedom now, in the months and years immediately ahead, so that there will be a future—for doctors and all Americans.

I am confident that American doctors—in their capacities as both medical men and citizens—will do their part. And I am confident that the American people, with God's help, will overcome the present threat to freedom—both at home and abroad.

United States Postal Service

Statement of Ownership, Management, and Circulation

1. Publication Title Connecticut Medicine	2. Publication Number 0 1 2 9 - 3 6 0	3. Filing Date September 28, 2000
4. Issue Frequency Monthly	5. Number of Issues Published Annually 12	6. Annual Subscription Price $25.00

7. Complete Mailing Address of Known Office of Publication *(Not printer) (Street, city, county, state, and ZIP+4)*
160 Saint Ronan St., New Haven, CT 06511-2390

Contact Person
Rhonda Hawes
Telephone
865-0587

8. Complete Mailing Address of Headquarters or General Business Office of Publisher *(Not printer)*
160 Saint Ronan St., New Haven, CT 06511-2390

9. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor *(Do not leave blank)*

Publisher *(Name and complete mailing address)*
Connecticut State Medical Society, 160 Saint Ronan St., New Haven, CT 06511

Editor *(Name and complete mailing address)*
H. David Crombie, M.D., 160 Saint Ronan St., New Haven, CT 06511

Managing Editor *(Name and complete mailing address)*
Wanda E. Jacques-Gill, 160 Saint Ronan St., New Haven, CT 06511

10. Owner *(Do not leave blank. If the publication is owned by a corporation, give the name and address of the corporation immediately followed by the names and addresses of all stockholders owning or holding 1 percent or more of the total amount of stock. If not owned by a corporation, give the names and addresses of the individual owners. If owned by a partnership or other unincorporated firm, give its name and address as well as those of each individual owner. If the publication is published by a nonprofit organization, give its name and address.)*

Full Name	Complete Mailing Address
Connecticut State Medical Society	160 Saint Ronan St., New Haven, CT 06511
(non-profit organization)	

11. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities. If none, check box ☒ None

Full Name	Complete Mailing Address

12. Tax Status *(For completion by nonprofit organizations authorized to mail at nonprofit rates) (Check one)*
The purpose, function, and nonprofit status of this organization and the exempt status for federal income tax purposes:
☒ Has Not Changed During Preceding 12 Months
☐ Has Changed During Preceding 12 Months *(Publisher must submit explanation of change with this statement)*

PS Form **3526**, October 1999 *(See Instructions on Reverse)*

13. Publication Title
Connecticut Medicine

14. Issue Date for Circulation Data Below
August 2000

15. Extent and Nature of Circulation			Average No. Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
a. Total Number of Copies *(Net press run)*			7691	7304
b. Paid and/or Requested Circulation	(1)	Paid/Requested Outside-County Mail Subscriptions Stated on Form 3541. *(Include advertiser's proof and exchange copies)*	7589	7220
	(2)	Paid In-County Subscriptions Stated on Form 3541 *(Include advertiser's proof and exchange copies)*	na	na
	(3)	Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Non-USPS Paid Distribution	0	0
	(4)	Other Classes Mailed Through the USPS	0	0
c. Total Paid and/or Requested Circulation *[Sum of 15b. (1), (2),(3),and (4)]* ▶			7589	7220
d. Free Distribution by Mail *(Samples, compliment ary, and other free)*	(1)	Outside-County as Stated on Form 3541	24	25
	(2)	In-County as Stated on Form 3541	na	na
	(3)	Other Classes Mailed Through the USPS	0	0
e. Free Distribution Outside the Mail *(Carriers or other means)*			0	0
f. Total Free Distribution *(Sum of 15d. and 15e.)* ▶			24	25
g. Total Distribution *(Sum of 15c. and 15f)* ▶			7613	7245
h. Copies not Distributed			78	59
i. Total *(Sum of 15g. and h.)* ▶			7691	7304
j. Percent Paid and/or Requested Circulation *(15c. divided by 15g. times 100)*			99.68	99.65

16. Publication of Statement of Ownership
☒ Publication required. Will be printed in the October 2000 issue of this publication. ☐ Publication not required.

17. Signature and Title of Editor, Publisher, Business Manager, or Owner
Date 9/28/00

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PS Form **3526**, October 1999 *(Reverse)*

The Human Side

In the 1880s, when the Hartford summers were hot and humid, those with the wherewithal would escape to their vacation homes "on the shore." Mark Twain transferred his family each summer from Hartford to Quarry Farm, in Elmira, New York, which belonged to his wife's family. There he could write and relax in a more comfortable environment escaping the many social obligations and endless visitors that impinged upon his productive hours in Hartford. Quarry Farm had its interruptions, too, and to escape them he had a studio built that he designed with eight sides; it can still be seen on a visit to Elmira. Mark Twain chose the eight-sided design so that when he was writing, searching for the muse, he could look out into the surrounding landscape from any one of the sides and gain inspiration from a new view.

The practice of medicine has become a many-sided enterprise or endeavor in modern times though perhaps not symmetrically octagonal. If we view it from outside, as our patients, the public, and the policymakers do, there is a risk that the one, or two, or three sides being viewed will not give the viewer an accurate picture of the true nature of that endeavor or even its most important side. Further, since we doctors inside can be seen in our conduct from the outside, how we comport ourselves here influences the view from outside as well.

There is the scientific side, that constantly updated search for truth that we hope stays grounded in the scientific method of hypothesis, inquiry, validation, and replication—free of the confounding effects of capitalism. A separate side, often juxtaposed with the scientific, is the technology viewpoint. It lends its characteristics to medicine driven in part by the call of scientific advance and in part by the entrepreneurial engine: business's desire to sell as contrasted with medicine's need to have. Lately, the financial side seems to have held sway obscuring the viewer's perspective of the other dimensions or components of our endeavor. Not only is this distorted view created by the staggering costs accrued in the care of one sick patient, and all patients in the aggregate; it also is distorted at times by the observation that those of us on the inside seem to be so possessed by its importance.

Two other sides of the medical enterprise are closely related to each other but only distantly related to what we all identified as "the practice of medicine" when we entered the profession. They are management and the systems approach to health care. Most physicians in my generation (and most in the preceding, plus some in the succeeding) never got tuned in to medical management, out of neglect, incapacity, or the fear that attention to it would distract from the "real job." Some of us see that as a perilous oversight, others have tried to make up for the prolonged neglect by shifting to management as the be all and end all of medicine for the future, and still others maintain a neanderthal stripe, resisting any participation in medical management. As to systems approaches, the first blush was the treatment algorithm, greeted with cries of "cookbook medicine," which neither patients nor doctors wanted. Then, with the publication of the IOM report, "To Err is Human," we were told that most medically-related misadventures could be eliminated by establishing systems that mimic those in the smartest industrial organizations. Certainly, looking at the medical enterprise from these two vantagepoints, one can find the individual patient, the one that we are accustomed to dealing with, to be a vague entity indeed.

Of course, there is no neglecting the political side of the medical enterprise, and as one observes from that perspective one learns that there is the global political scene that influences the course of medicine from without, and the internal politics of medicine affecting it from within. Anyone with a historic bent appreciates that this political identity of medicine is one of its oldest; in fact, while we might marvel (or cringe) at the political dimensions of today's medicine, it pales next to the political vigor of medicine in 1740, or 1790, or 1880, or 1910. Thus, we shouldn't be embarrassed; the political complexion has always been there and, presumably, always will be.

There are two more sides to our metaphorical octagon, the ethical and the human vantagepoints. Would that they are always visible, indeed prominent, no matter what the viewing angle might be. But, alas, they are mercurial in character, laden with nuance not easy to have in the same room with all that structured science and technology, all that heady political and economic power. The human dimension has too many words characterizing it that don't go well in sentences with the expanding lexicon of management-ese: words like suffering, loss, alone, pain, dignity, life, love. Those words and that human/ethical vantagepoint are ours to use and ours to personify as we are viewed in our many-sided workplace.

H. David Crombie, M.D.
Editor

50 Years Ago
From *The Connecticut State Medical Journal*
December 1950

THE PRESIDENT'S PAGE

IN THE month of December we have a Christmas Holiday and the advent of a new year. These two events emphasize to many of us the spiritual aspect of our lives and the desire to make new resolutions for the coming year. Therefore, I present to the members of the Connecticut State Medical Society this Physician's Prayer:

Lord, who on earth didst minister
    to those who helpless lay
In pain and weakness, hear me now,
    As unto Thee I pray.

Give to mine eyes the power to see
    The hidden source of ill,
Give to my hand the healing touch
    The throb of pain to still.

Grant that mine ears be swift to hear
    The cry of those in pain;
Give to my tongue the gentle words that bring
    Comfort and strength again.

Fill Thou my heart with tenderness,
    My brain with wisdom true,
And when in weariness I sink,
    Strengthen Thou me anew.

It is my opinion, if all physicians would learn and say this prayer daily, the problem of medical public relations would be largely solved.

Thomas J. Danaher, M.D.

Dr. Danaher, a physician and surgeon of Litchfield County, was CSMS President from 1950 to 1951, and died in 1977. As the organizer and first president of the Connecticut Medical Service (CMS), later known as Connecticut Blue Shield, he greatly expanded the access of Connecticut's people to private medical care.

Send a Letter to Your Patients

Send a letter to your patients. Let them know you care.

They need to know how much of your time and energy is spent each and every day defending against the intrusions of the current experiment in health care financing. Tell them about the frustration of the constant telephone calls to telephone trees that end in unanswered voice mail. Explain to your patients that you would rather call Mrs. Brooks, and give her words of encouragement before she goes to the hospital for surgery than endlessly wait to receive authorization for a necessary test or treatment. Let Mr. Lee know that you spent an hour on the telephone with the HMO that has now refused to pay for his surgery after they sent prior authorization. But you can never express how exasperated you were, when a clerk explained that "they" made a mistake in approving his surgery and "there was no way" to reverse their error.

The perverse tactics that some HMOs use to provide free care at the physician's expense are frustrating and demoralizing. Too many managed care companies do not care if they demonstrate an absence of integrity, of good intentions and of humane business practices. Tell your patients about your late night visit to the office to see a child with a temperature of 106 degrees. Payment for the visit was denied because the child was seen earlier in the day for a cold.

Let your patients know that you dream of the day when health is more important than wealth, when medicine is more important than money and when providing care is more important than restricting care. There are days when the joy of seeing your familiar patients who have become your friends is clouded by your concerns over the future of health care.

And yet, as you stare at the stack of charts climbing on your desk at the end of the day, you know that this is truly what you want to do—to be with and to care for patients. While you may appear distant and distracted at times, you must let your patients know that you feel their fears and uncertainties and understand their problems and concerns. Someday, managed care, will, hopefully, understand the advantages of long term relationships between a physician and patient. They would understand how a physician instantly knows when an old friend is depressed, upset or physically ill. They will recognize how important it is to the success of treatment to understand a patient's perception of illness.

The real joy in being a physician is to hold our patient's hand in time of sorrow and to be supportive in times of pain. Our greatest medical instrument is the ability to listen. Our greatest therapy is compassion and sympathy. We will get over this temporary distraction and again be able to spend the time and energy on what is important, caring for and about our patients. Patient advocacy is the beacon that will guide us through these difficult times for both patients and physicians.

Take courage in the message written by Dr. Thomas Danaher for our Journal's "President's Page of 50 years ago, reprinted on the facing page.

Donald D. Timmerman, M.D.
President

The Robert U. Massey History of Medicine Society

2000–2001 Schedule of Presentations

November 8

Walter Borden, M.D., P.C., Forensic Psychiatrist, Private Practice, West Hartford

The History of Psychiatry and the Law

December 13

Thomas Murray, M.D., Ph.D., Pediatric Residency Intern, Yale New Haven Hospital

Culturing the Throat to Protect the Heart:

Dr. Milton Markowitz and the History of Rheumatic Fever

January 10

Amala Guha, M.P.H., Ph.D., *Assistant Professor of Medicine, School of Medicine, University of Connecticut*

Ayurveda: *Of Mind, Body and Spirit and the Origin of Holistic Medicine*

February 14

Arnold Katz, M.D., *Professor, Cardio-Pulmonary Dept., School of Medicine, University of Connecticut*

Emergence of Rational Explanations of Nature in Ancient Greece:

The Only Scientific Discovery?

March 14

Jack Hasson, M.D., *Pathologist, University of Connecticut,* Retired

A History of Autopsy and Fallibility

April 11

David Crombie, M.D., *Surgeon, Hartford Hospital*

Nathan Smith (1762–1829), all New England Surgeon

The Robert U. Massey History of Medicine Society is an association of individuals interested in presentations and discussions on the history of medicine. The society seeks to foster an understanding of medicine's history and an appreciation for the cultural and social settings in which medical developments have taken place. The society also seeks to encourage health sciences students to acquire an appreciation for their historical heritage.

The society is affiliated with the University of Connecticut Health Center and is open to those who have an interest in the history of medicine. A roster of members is maintained in the Department of Community Medicine and Health Care. Those who wish to be included on the membership roster should notify this department to be included on the mailing list for society lectures. The willingness of members to present lectures or recommend speakers contributes to the society's ability to maintain community interest and to attract new members.

The society meets the 2nd Wednesday of the month at 5 P.M. in the Health Center. **Directions to Meeting Room from the Academic Entrance:** Proceed up one floor and approach the courtyard. Both Lecture Room A and the McManus Room are on your right. *For further information:* Mary Petruzzi, Administration, University of Connecticut Health Center Library, Farmington, CT 06030-4003; (860) 679-2840; *email:* petruzzi@nso.uchc.edu; *Visit our web site at:* http://library.uchc.edu/history/

REFLECTIONS ON MEDICINE

The Fruit of the Vine: Aid to Longevity?

ROBERT U. MASSEY, M.D.

> Drink no longer water, but use a little wine for thy stomach's sake and thine often infirmities.
>
> *I Timothy* 5:23

IN his popular book, *The Human Body*, first published in 1927, Logan Clendening, then professor of medicine at Kansas University School of Medicine, made reference to a study of longevity among 1,259 men and 788 women, divided by their drinking habits into three groups: total abstainers, moderate and occasional, and steady drinkers. The results were satisfying:

	Males	*Females*
Total abstainers	60.05 years	58.49 years
Moderate and occasional	61.04 years	61.70 years
Heavy and steady	55.37 years	47.50 years

With no little satisfaction Glendening commented that "Attention is of course directed to the exhilarating fact that the total abstainers exist for a slightly shorter period than the moderate indulgers." He added, "If a man resolves to abstain from alcohol, ... I am prepared to applaud him and avoid him."

This study had been reported by a Dr. Raymond Pearl in the February 1924 *American Mercury*.[1] I did not look it up, but the data surely were gathered from records long before 1920, or in Canada or some other remote place, because no one touched the stuff in the U.S. of A. after 1920! Glendening went on:

> Even if a person swallows a jug of synthetic gin and runs me down with his Ford, that too is part of life, and I must learn to be spry and take care of myself on the streets. But what I most emphatically do object to is the use of the sciences of physiology and pathology as handmaids to do the work of prohibition agitators. You may go to the library of the American College of Surgeons any day at the cocktail hour and ask the assembled fellows if they do not agree.

Note that this was written before repeal of the 18th Amendment! Were these assembled fellows scofflaws? (The term *scofflaw* came into being in 1924 to "stab awake the conscience" of the lawless drinker—H. L. Mencken.)

I have several memories from the later years of those 14 between January 1920 and December 1933. My father made his own beer. Not only that, but it was a habit for the adults in my family to enjoy old-fashions or martinis before Sunday dinner. I never questioned the propriety of that ritual.

One afternoon in late summer 1932 my father and I were walking along a country road with our Baptist minister, a delightful middle-aged Englishman with a small mustache who carried a walking stick and wore pince-nez spectacles; they were talking of the upcoming election. "Emil," the Rev. MacMaster suddenly announced to my father, "Don't tell a soul, but I'm for Roosevelt. You'll wonder why. Well, I'm a wet. I'm for repeal!" I was never quite certain how my father, a life-long Republican, but also a Prohibition *scofflaw*, voted that November.

On the evening of the day when the Volstead Act came officially to an end, my parents had friends in for a celebration. I was upstairs reading in bed when my father came to my bedroom door, knocked, and offered me a glass of 3.2 beer. I thought it tasted awful but I drank it in the spirit of the great event, yet not entirely convinced of the rightness of it.

I've since learned that Prohibition was not a complete failure; deaths from cirrhosis of the liver significantly declined during the mid and late '20s, but its most notorious offspring, still flourishing among us, was, of course, organized crime.

Last month in the *Annals of Internal Medicine*, Grønbæck, Becker, Johansen, et al show that beer drinkers, wine drinkers, and spirit drinkers had a significantly reduced risk of death from all causes compared with nondrinkers, and an even greater reduced risk from coronary heart disease. The study included almost 25,000 persons (13,064 males and 11,459 females) with 257,859 person-years of follow-up. Wine alone reduced coronary deaths even among those who drank more than 21 glasses of wine each week, but was most effective in reducing cancer deaths.[2] The authors cite six additional studies published since 1992 with comparable findings.

If our pharmaceutical houses could produce a drug that was that effective, they might begin to show some decent profits! They should consider acquiring some wineries and distilleries, and then triple their prices over the next three years!

REFERENCE

1. Pearl's study is referred to in my 1940 Goodman and Gilman, *The Phamacological Basis of Therpeutics*, pp.118–19.
2. Grønbæk M, Becker U, Johansen D, Gottschau A, et al: Type of alcohol consumed and mortality from all causes, coronary heart disease, and cancer. *Ann Int Med* 2000; 133:411–19.

ROBERT U. MASSEY, M.D., Professor Emeritus, Division of Humanistic Studies, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington.

This Month's Reading in Review

TIMOTHY B. NORBECK

"Dr. Popular: According to a new Harris poll, the American public believes doctors and scientists have the "most prestigious" occupations, while bankers, businesspeople, union leaders and journalists have the least. Sixty-one percent of those surveyed claimed physicians had "great prestige," followed by scientists with 56%, while only 15% of participants place bankers and businesspeople on the great prestige plateau."
P.S. In case you wondered: lawyers, athletes, entertainers and journalists were seen by those surveyed as having little prestige.

Denver Rocky Mountain News
(7 September 2000)

Are you kidding me? An insincere lawyer?

A lawyer pled guilty in St. Louis in June to federal charges that he gave clients extravagant gifts over the past seven years and billed phony charges in order to make clients pay for their own gifts....The lawyer's "generosity" included concert tickets and trips to Las Vegas.

Chuck Shepherd (12 August 2000)

"First pizza, now medical care: Oakwood Hospital's emergency room is guaranteeing 30-minute service. Patients who don't see a doctor within that time will get an apology and free movie passes."

New York Daily News (11 August 2000)

Seafood or see food?

A man was arrested in Mashantucket, Conn., for allegedly stealing an ice chest.... Not just any ice chest: this one belonged to the New England Eye and Tissue Transplant Bank and contained two human corneas meant for transplant.... "I don't believe he's involved in a type of stolen human body part ring," said a State Police detective who interviewed the culprit, noting the foam container looked like ones fishermen use.... "He thought they were lobsters."

This is True (11 August 2000)

Would you believe?

"A controversial set of 'cookbooks' that insurers use to determine patients' health coverage is becoming embroiled in class-action litigation that accuses the insurance companies of choosing profits over health. A study expected to be released today could add more fuel to the fire. The study—which looked at more than 3.5 million pediatric cases in 1998 in hospitals across the country—shows a wide gap between Milliman & Robertson's 'goal lengths of stay' and the actual average length of hospital stays commonly prescribed by most doctors and hospitals. For instance, Milliman & Robertson's goal length for a hospital stay to treat bacterial meningitis in children is three days, but the study says the average length of stay found in actual practice for that diagnosis is 8.5 days. The latest study 'reflects what we think the companies have known for a long time' that Milliman & Robertson's guidelines are a way to reduce the amount of care provided and therefore to save money,' says Stephen R. Neuwirth, an attorney with Boies, Schiller & Flexner, which has brought one of the cases in Florida. 'We believe that our case will show that they marketed these guidelines for that purpose, and the health plans bought them for that purpose.'"

Wall Street Journal (14 September 2000)

More than one-third of patients are more likely to choose a doctor who offers e-mail-based communication, according to a survey released last month by VHA, an Irving, Texas-based hospital alliance.... While only 3% of survey respondents said they use e-mail to communicate with their physicians, 90% of those who do use it find it valuable and convenient, according to the survey, which polled 1,000 adults by telephone.... The survey also found that approximately 35% of patients do not know if their physician offers e-mail communications.

Modern Healthcare (4 September 2000)

Only in America—"An Arizona woman who had her vocal chords removed due to throat cancer lost her state Medicaid benefits after a Social Security disability increase put her 66 cents over the state's qualifying income limit. Cathy Danielson could live five more years, but her doctors say with constant care, she could live 10 years or more. Frank Lopez of the Arizona Health Care Cost Containment System said the state legislature does not give the agency any 'fudge factor' with respect to income limit cut-off."

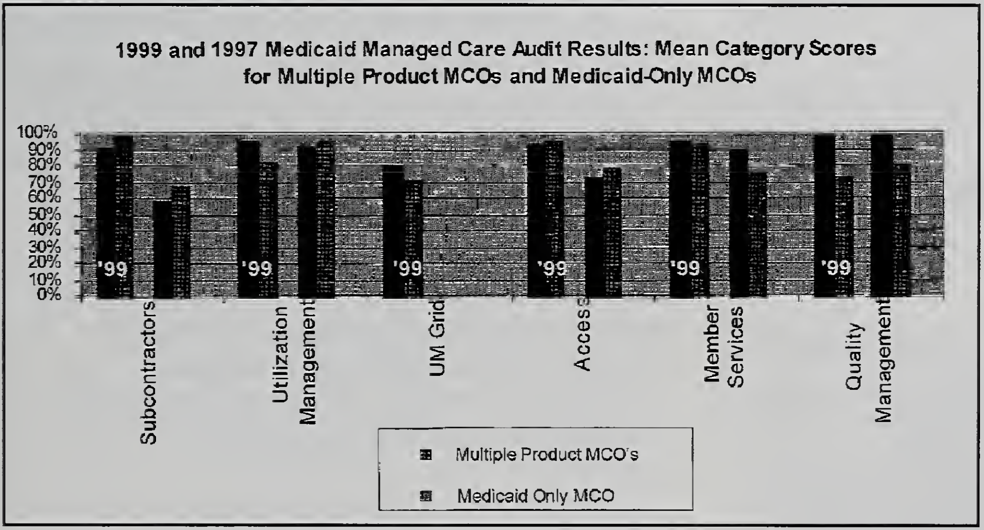
Arizona Daily Star (11 September 2000)

TIMOTHY B. NORBECK, Executive Director, Connecticut State Medical Society.

Qualidigm's Ongoing Evaluation of Medicaid Managed Care

In 1995, the State of Connecticut initiated a managed care program to replace the fee-for-service health-care system for Medicaid recipients. This change in the healthcare delivery service required a waiver for Connecticut from the Health Care Financing Administration (HCFA). The waiver was granted as was the stipulation that an independent, external review of the program be provided by a peer review or similar organization. In 1997 Qualidigm was awarded this service under contract to the Department of Social Services (DSS).

As the external quality review organization (EQRO), Qualidigm monitors the contract compliance of the managed care organizations (MCO) that participate in the Medicaid managed care program (HUSKY A program). The initial audits conducted in 1997 and 1998 were structured to gather baseline compliance data and to determine whether the infrastructures of the 11 participating MCOs were adequate to support delivery of all Medicaid covered services to their enrollees. The subsequent ongoing annual audits are designed to survey contract compliance through day-to-day operational practices.


1999 and 1997 Medicaid Managed Care Audit Results: Mean Category Scores for Multiple Product MCOs and Medicaid-Only MCOs

The second contract compliance audit of the four participating MCOs was conducted in 1999 and followed the same methodology as the baseline audit. Qualidigm's proprietary audit tool, designed to eliminate auditor subjectivity, was modified to account for current contract changes and to allow for closer scrutiny of targeted contract provisions. Most of the measurement criteria were derived from the current MCO contract with the DSS and focused primarily on the implementation of processes required by the contract. The criteria were prioritized and organized into five categories: subcontractor oversight, utilization management, access, member services, and quality management. Data were collected through management interviews, documentation review, and direct observation of workflow. A computerized system allowed the auditor to record MCO scores and to tabulate audit results automatically at the end of the two-day on-site review. Both aggregate and MCO-specific results that compared MCO performances were presented to the DSS, MCOs, and the Medicaid Managed Care Council (MMCC). The MMCC is a legislative group mandated to provide oversight to the Medicaid Managed Care program in Connecticut.

The 1997 baseline audit found organizational structure was a major determinant of operational strengths and weaknesses and, overall, the performance gap between the two types of organizations had widened. The previous audit showed that commercial MCOs, with lines of business other than Medicaid, had more fully developed capacities to deliver the core services that make up the basic infrastructure of any MCO such as utilization management, member services, and quality management. The commercial MCOs generally scored higher in these areas. Scores for member services are nearly equal but the score spread for quality management is considerably widened. Conversely, in the baseline audit, the Medicaid-only MCO out-performed the commercial MCOs in the Medicaid-specific functions defined by Federal Medicaid guidelines and the HUSKY A contract including Early and Periodic Screening, Diagnosis and Treatment Services (EPSDT), outreach, transportation and translation services, and cultural diversity. This time the commercial MCOs showed significant improvement in these areas and performed on par with the Medicaid-only organization. As a whole, the current scores represent an improvement in the MCO groups' performance over the baseline data.

The 1999 audit looked closely at utilization management documentation and found that case management and discharge planning documentation was uniformly insufficient among the MCOs. This lack of documentation suggests that significant functional improvements are necessary for the MCOs to meet their contract requirements for case management and discharge planning for Medicaid enrollees.

Qualidigm's third phase of contract compliance audits began in May 2000 and will be completed by the year's end. These audits will build on the previously collected data and will focus on subcontractor oversight, utilization management, member services, access, quality management, and credentialing. An emphasis will be placed on utilization management operations and case records. The DSS implemented a rigorous notice of action and grievance procedure since the 1999 audit and grievance files will be examined to evaluate compliance with the new requirement.

The performance bar will continue to be raised with each MCO audit cycle and the importance and value of Qualidigm's external quality review will be central in the process. This repetitive process increases performance expectations and continually communicates Connecticut's commitment to enhance and ensure quality health care for the state's Medicaid recipients to government entities, managed care organizations, program advocates and consumers.

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The Office of the Inspector General Releases Final Compliance Guidance for Individual and Small Group Physician Practices

On 25 September 2000, the Office of Inspector General (OIG) of the United States Department of Health and Human Services (HHS) announced release of its Final Compliance Guidance for Individual and Small Group Physician Practices (Final Compliance Guidance).

In general, the recommendations in the Final Compliance Guidance do not significantly depart from those included in the draft version released last Spring (our article on the draft Compliance Guidance was published in September's issue of *Connecticut Medicine*). In response to numerous comments from physician organizations, however, the OIG has streamlined the Final Compliance Guidance to emphasize two important concepts. First, the OIG repeatedly emphasizes that a physician practice's decision on whether to develop a compliance program is voluntary. Second, recognizing the significant resource and time limitations confronting physician practices, the OIG recommends seven basic steps that an individual or small practice could take to develop a compliance program:

☐ STEP ONE: Develop an Audit Workplan

Since a compliance program is intended to prevent and detect violations, auditing is a fundamental component of an effective compliance process. As part of the compliance process, a physician practice should develop self-audit procedures to ensure that individuals are properly carrying out their responsibilities and claims are submitted accurately. These audit activities could focus on a sampling of claims and should include medical record reviews to evaluate, compliance with billing, coding and documentation requirements.

In the Final Compliance Guidance, the OIG recommends that the self-audits should be, performed by the individual in charge of billing compliance along with a medically trained person. The self-audit can be either a retrospective or concurrent review of claims. The OIG recommends that a physician practice perform a baseline audit that would serve as "a benchmark against which to measure future compliance effectiveness." Following the baseline audit, the physician practice should conduct audits at least on an annual basis.

☐ STEP TWO: Establish Practice Standards and Procedures

In its Final Compliance Guidance, the OIG recommends that a physician practice develop written standards and procedures to deal with the practice's risk areas that are identified through internal audits. This goal can be met by developing a written compliance manual and updating clinical forms on a periodic basis to ensure accurate coding information. The OIG also suggests that one cost-effective method of developing policies and procedures is to create a resource manual from publicly available information. This manual could simply be a three-ring binder with copies of relevant laws, regulations, and carrier manual provisions and notices; one source of such information, a summary of relevant laws and regulations, is provided in the Appendix to the Final Compliance Guidance. The OIG is working to compile a list of basic documents to be included in such a binder. The manual should be updated regularly to ensure that they are current and complete.

The OIG recommends that all physician practices distribute the policies and procedures to employees when hired and that they document the distribution. Similarly, updates to the policies and procedures should be given to the employees and the distribution documented.

☐ STEP THREE: Designation of a Compliance Officer/Contact

In the Final Compliance Guidance, the OIG acknowledges that resource constraints of physician practices make it "often impossible to designate one person to be in charge of compliance functions." The OIG recommends that if a practice cannot designate a "compliance officer," at a minimum, it should assign one member of the practice to develop corrective action plans when risks are identified, and to oversee the practice's adherence to these plans. The OIG's recommendation marks a significant departure from the "Compliance Guidance" released by the OIG for other sectors of the health care industry, and even the draft version released last Spring for physician practices, all of which require the designation of a single Compliance Officer.

According to the final Compliance Guidance, if a physician practice designates more than one employee with compliance monitoring responsibilities, it should outline each "compliance contact's" responsibilities in its policies and procedures. The OIG further suggests that the physician practice may opt to outsource some or all of the compliance functions to a third party, such as a

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consultant, physician practice management company, management service organization, independent physician association, billing company or professional association, so long as such third party has "sufficient interaction with the physician practice to be able to effectively serve as the compliance officer-" Before following this suggestion, a physician practice should consult legal counsel to be sure that the arrangement with the outside individual or organization is appropriately structured so as to ensure that this criteria is met and that the outsourced compliance officer is in a position to maintain confidentiality of any sensitive issues that may arise under the compliance program.

☐ STEP FOUR: Conduct Education and Training

Once the physician practice develops written policies and procedures, it should also plan and implement training about the basic principles in the compliance program This "basic training" should eventually become part of orientation for all new physicians and employees and should be provided as soon as possible after their start date. The practice should provide periodic refresher courses for all current physicians and employees.

In addition to this "basic training," physician practices should also make sure that individuals responsible for coding and billing receive appropriate training on the applicable legal requirements. The physician practice also must provide up-to-date coding and billing manuals to employees involved in the billing process.

The OIG recognizes that both in-house training and outside seminars, such as continuing education and certification courses offered by professional associations, can be a effective for achieving the training goals of the physician practice.

☐ STEP FIVE: Developing Corrective Action Initiatives

Once a possible violation has been detected, a physician practice should develop a corrective action plan and determine how to respond to the, problem. If the physician practice determines after an investigation or audit that it owes money back to a government payor, then it should take appropriate steps to return any overpayments. It is advisable to consult with legal counsel in these situations.

☐ STEP SIX: Establish a Line of Communication to the Compliance Officer/Contacts

The OIG recognizes that because of the nature of small physician practices, opening up the lines of communication will need to be conducted in a less formal manner. Such a process can simply take the form of implementing a clear "open door" policy between employees, compliance personnel and physicians. To the extent possible, the physician practice should facilitate the submission of anonymous reports. For example, a physician practice may create a "compliance box" (like a suggestion box) in a strategic location frequented by many employees, for those who would rather submit an anonymous written report. The OIG does acknowledge that the protection of anonymity may be difficult, if not impossible, in a small physician practice. In these circumstances, as in all cases, the physician practice must ensure that employees are able to file reports or ask questions without fear of retribution.

Compliance personnel should maintain a log of reports received through various communication channels and should promptly investigate reports of suspected wrongdoing. The log should document the practice's follow-up to the report.

☐ STEP SEVEN: Enforce Compliance Standards Through Well-Publicized Disciplinary Guidelines

According to the Final Compliance Guidance, a physician practice must enforce its compliance standards through "well-publicized" disciplinary guidelines. All employees should be held accountable for abiding by the compliance policies and procedures. The physician practice should consistently discipline employees and managers who fall short of these requirements. A physician practice can satisfy the *"well-publicized"* standard by including the disciplinary guidelines in in-house training and procedure manuals.

The Final Compliance Guidance and these seven steps are geared toward individual and small physician practice. Larger practices may require a more organized, formal program. Regardless of size, however, all practices should find the Final Compliance Guidance useful because the GIG discusses the government's position and perspective on numerous *issues,* including: coding and billing; "reasonable and necessary" services; documentation; improper inducements, kickbacks and self-referrals; record retention; advance beneficiary notices; professional courtesy; physician certification for home health care services and durable medical equipment and physician involvement in hospitals.

Although compliance programs are voluntary, they can greatly benefit an organization. A good compliance program is "preventive medicine" because it attempts to avoid problems from developing and to detect and correct them when *they do* arise. The key to an effective compliance program is to tailor it to -meet the resources and needs of the particular practice and to integrate it into the practice's corporate culture.

Maureen Weaver, Esq.
Partner, Health Care Department , Wiggin & Dana
Richard H. Lugli, Esq.
Associate , Health Care Department, Wiggin & Dana

Letters to the Editor

Letters to the Editor are considered for publication (subject to editing and abridgement), provided that they are submitted in duplicate, signed by all authors, typewritten in double spacing, and do not exceed 1-1/2 pages of text (excluding references). They should not duplicate similar material being submitted or published elsewhere. Letters referring to a recent Journal article should be received within six weeks of the article's publication.

"I Shall Please"

Letter to the Editor: In looking over some back issues of Connecticut Medicine, I chanced to read your excellent and sensitive editorial on the dilemma of modern medicine and the need to remind ourselves as physicians of the fundamentals of the humanistic interactions with our patients and the community. ("I Shall Please" *Conn Med* 2000; 2:113)

A psychiatrist colleague recently wrote an editorial entitled "The Art of Medicine is Dead." He pointed to the pressures of managed care and the subsequent splitting of medication management and psychotherapy, with non-physicians increasingly taking over the traditional functions of the psychiatrist. Interestingly he ended his diatribe by stating that he was one of the die-hard physicians who insisted on doing his own psychotherapy.

It makes an important statement which I feel needs to be reemphasized and printed in bold letters: our effectiveness as physicians depends on our development of our humanistic qualities as well as our acquisition of scientific knowledge. That's what makes us special, and that needs to be cultivated. I am convinced that each of us can make a difference by sticking to our principles, and insisting on practicing medicine as the art that it is and needs to be. This includes fighting the managed care people and the insurance companies when they attempt to practice medicine in our stead.

After 50 years in psychiatry I am still fighting that battle, and occasionally I get them to back down. I am convinced that each one of us can make a difference.

Thank you for your fine reminder of what we need to strive for.

Anselm Schurgrast, M.D.
Meriden

Diagnostic Value of Cervical Discography

Letter to the Editor: Cervical discography (*Conn Med* 2000; 64:395) has been employed for many years but has recently been little-used by most neurosurgeons because of the widespread feeling that it is ineffective as a means of identifying a surgically remediable problem in the cervical spine when other studies are normal or nearly so. There are no good statistical studies to prove or disprove the point and, while it is always commendable to review one's own results, a retrospective study of fourteen cases sheds little, if any, light on the subject.

I believe, however, that one can reach a reasonable conclusion regarding the application of this procedure by considering the following facts:

1. The results of cervical discography depend upon a subjective response of pain while the patient is under the duress of a medical procedure.
2. Neck pain can originate from discs, joints, ligaments, muscles, or a combination of these at one or multiple levels. The process is frequently diffuse.
3. Radiological procedures frequently do not provide good objective evidence that localizes the source of pain. One may, for example, have severe degenerative disc disease at one or multiple levels with little or no pain and, conversely, one may have severe pain with little or no degenerative disc disease.
4. Disc excision and fusion can eliminate pain which originates from the level operated upon but may aggravate pain which originates from adjacent levels.
5. Cervical discography and disc excision and fusion are procedures which have a complication rate.

The surgeon bets that this test, which relies on the subjective response of a patient under duress, will be able to localize the level(s) from which the pain originates and exclude other levels in a disease process which is frequently diffuse. He will then use that information to perform a major surgical procedure. If he is right, he and the patient have won for now, until the adjacent levels become painful. If he is wrong and there are no complications of the procedure the patient may have the same or worse pain and has had a hospitalization, recovery, incurred costs, and dashed hopes. If there is a complication the patient must live with the effects of this.

There are times when the bet may be worthwhile, such as when the pain is severe and intractable and objective radiological evidence localizes severe disease to one or two levels and other levels are relatively normal. However, when the MRI shows equivocal or mild pathology, regardless of the subjective discography results, the bet is, in my opinion, a poor one.

James E. Finn, M.D.
Neurosurgeon
Waterbury

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Managed care plans typically require physicians to complete and submit a variety of patient-identifiable forms relating to pre-authorization and utilization review. Due to the confidential nature of such patient information, physicians should establish clear guidelines in their offices regarding the completion of such paperwork to ensure its confidentiality. In order to avoid potential legal liability, third parties, including pharmaceutical vendors, should not be offered access to such confidential information without a patient authorization.

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CONNECTICUT MEDICINE (ISSN 0010-6178), published monthly at 160 St. Ronan Street, New Haven, CT 06511. Subscription rate included in membership dues. Non-members: $25.00 per year. Periodicals postage paid at New Haven, CT and at additional mailing offices. POSTMASTER: Send address changes to Connecticut Medicine, 160 St. Ronan Street, New Haven, CT 06511-2312.

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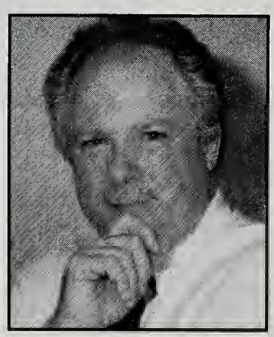

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Intraductal Papillary Mucinous Tumors: A Case Report and Review of Literature

REHAN QAYYUM, M.D., AND CLAUDIA McCLINTOCK, M.D.

ABSTRACT—Intraductal papillary mucinous tumors are slow growing cystic neoplasms of pancreas with favorable prognosis. A case report of such a tumor in an octogenarian is presented. Excessive mucin secretion with ectatic dilatation of pancreatic ducts is a hallmark of this tumor. K-ras and p53 mutations are less frequent then in ductal pancreatic adenocarcinoma. Endoscopic retrograde cholangiopancreatography findings are diagnostic and include a patulous papilla and amorphous filling defects in dilated pancreatic ducts. Magnetic resonance pancreatography, endoluminal ultra-sound, and pancreatoscopy are also helpful in diagnosis. Complete surgical resection is recommended.

CYSTIC neoplasms form 10% to 13% of all pancreatic cysts and 1% of all pancreatic carcinomas. Cystic neoplasms can be divided into serous and mucinous, and mucinous neoplasms can be further divided into mucinous cystic neoplasms and relatively less common intraductal papillary mucinous tumors (IPMT). Only one case out of 297 pancreatectomies done in a center over a period of 13 years was IPMT, showing its rare occurrence.[1] There are very few reports in the literature of an octogenarian having intraductal papillary mucinous neoplasm with successful removal of the tumor. In this article we present a case report of IPMT in an octogenarian and a review of the literature.

Case Report

An 81-year-old Jamaican female presented to the clinic with severe, aching, right upper quadrant abdominal pain of three weeks' duration. Pain radiated to the back and was gradually worsening over the course of time. There was no relationship to food, respiration, or posture and no diurnal variation. Four years ago she was diagnosed with new onset diabetes mellitus and was started on oral hypoglycemic agents with adequate control. She had no history of pancreatitis, gallstones, recent change in medications, tobacco, or alcohol use. Physical examination was remarkable for tenderness in the right upper quadrant and epigastric tenderness. There was no abdominal mass or evidence of jaundice. She had normal liver function tests (LFTs), amylase, and lipase. She had an ultrasound of abdomen, which showed a 5-cm mass at the head of pancreas and an additional small mass at the tail of pancreas with no biliary dilation. A computerized tomography (CT) scan of the abdomen showed a 7-cm polycystic mass in the head of pancreas and dilated main pancreatic duct. Carcinoembryonic antigen (CEA) and carbohydrate antigen19-9 (CA 19-9) were normal. She had an endoscopic retrograde cholangiopancreatography (ERCP) showing widely patulous papilla extruding a large amount of whitish mucoid material. Pancreatic duct was found dilated and there were ectatic side branches. Biopsies and brushings were taken. After ERCP, due to classical appearance, there was a strong suspicion of intraductal mucinous papillary tumor of the pancreas. She was admitted to the hospital and underwent pancreaticoduodenectomy. At operation she was found to have a 4.1 x 2.3 x 2.0 cm cystic, indurated, partially papilliferous, fibrotic mass which was predominantly within the superior aspect of pancreas. Microscopic examination showed IPMT

REHAN QAYYUM, M.D., Resident Physician, Department of Medicine (Primary Care), University of Connecticut School of Medicine, Farmington; CLAUDIA McCLINTOCK, M.D., Assistant Professor of Medicine, Department of Medicine (Primary Care), University of Connecticut School of Medicine, Farmington.

which was multiloculated and cystic. There was mild cellular atypia and no invasive component was seen. Surrounding pancreatic tissue showed severe chronic pancreatitis with extensive fibrosis and loss of pancreatic tissue. Many pancreatic ducts were dilated and some showed foci of *in-situ* changes of IPMT. Resected margins were free of tumor and no metastases were found in any of 13 lymph nodes. She had an uneventful post-operative recovery.

Discussion

Mucin-producing neoplasms of the pancreas are divided into intraductal papillary neoplasms (adenocarcinoma/adenoma) and mucinous cystic neoplasms (cystadenocarcinoma/cystadenoma). Ohhashi et al[2] first described mucin-producing tumor of the pancreas as a new clinical entity in 1982. Since then (it has been described with varying names in the literature including but not limited to: ductectatic mucinous cystadenoma and cystadenocarcinoma,[3] intraductal mucin-producing tumor,[4] intraductal mucin-hypersecreting neoplasm,[5] intraductal papillary adenocarcinoma,[6] mucinous ductal ectasia,[7] and mucin-producing tumor.[8] Morohoshi et al first used the term "intraductal papillary neoplasm" in 1989.[9] These tumors need to be differentiated from relatively more common mucinous cystic neoplasms of the pancreas. Shyr et al[10] compared the intraductal papillary and mucinous cystic neoplasms of the pancreas and described the similarities and differences between these two tumors. Excessive secretion of mucin by tumor cells plays a major role in its unique and characteristic clinical picture. This type of carcinoma is remarkably distinct from common ductal cell carcinoma of pancreas in its presentation, appearance, and favorable prognosis.

Intraductal papillary mucinous tumor is a rare tumor of exocrine pancreas. It is somewhat more common in males. Average age at presentation is in the seventh decade. Commonest presentation is abdominal pain, which may or may not radiate to the back. It must be considered in the evaluation of abdominal pain, particularly in the presence of a cystic pancreatic lesion or when associated with idiopathic acute or recurrent pancreatitis. Pancreatic exocrine or endocrine insufficiency presenting as malabsorption or diabetes mellitus may be the initial presentation, although pancreatic insufficiency more typically develops late in the course of symptomatic disease. Weight loss is not uncommon. Jaundice, though rare, may be present when there is involvement of the biliary tree. Serum amylase, CA19-9, and CEA may or may not be elevated and are not helpful in the diagnosis or prediction of malignancy. There has been a case report of association of pseudomyxoma peritonei with this tumor. Sometimes, IPMT is an incidental finding.[11]

Etiology has not been clearly defined and there is little information about the genetic mutations responsible for the neoplastic transformation. Mutations in p53 gene activation, mutations in K-ras gene, over-expression of c-erbB-2, and loss of Rb-gene product have all been found. The frequency of K-ras mutations at codon 12 has been found to increase with the transformation of normal epithelium to dysplastic to malignant.[12] Similarly, p53 mutations have also been associated with the malignant behavior of these tumors.[13] Overexpression of p53 and cyclin A mutations have been found to be less frequent in IPMT as compared to invasive ductal carcinoma of the pancreas.[14] This lower degree of expression has been implicated in the less invasive potential of this tumor. Membrane associated mucin (MUC-1) has been found to be expressed in 98% of invasive ductal carcinoma of the pancreas while IPMT express MUC-2 (secretory mucin) though invasive IPMT may acquire MUC-1 expression.[15]

Intraductal papillary mucinous tumors are slow growing tumors. After transformation, neoplastic cells first grow along the duct wall forming a papillary pattern and producing large mounts of mucin. A large amount of thick mucinous material is present in the dilated ducts. Excess mucin production has been thought to be the cause of intermittent obstruction of ducts leading to duct dilatation, duct ectasia, and chronic pancreatitis. Histologically, the tumor consists of well-differentiated mucin-secreting, columnar epithelial cells. It starts as a nonpapillary hyperplasia leading to papillary hyperplasia, dysplasia, and finally to carcinoma. It may show papillary or papillotubular growth patterns. All these features may be present in a single specimen in various foci. Surrounding pancreatic parenchyma may show acinar atrophy and fibrotic changes of chronic pancreatitis. The tumor appears to infiltrate the peripancreatic tissue and metastasize to regional lymph nodes late in the course of the disease as compared to the common ductal carcinomas of the pancreas. Serial ERCPs in patients with IPMT have highlighted the history of the tumor and have shown slow progression of lesions from round or ovoid to belt-like or amorphous and main pancreatic duct dilatation progression from localized to diffuse. Progressive ductal changes are associated with increasing amounts of mucin accumulated in the duct. Changes in the pancreatograms of mucin-producing tumors occur when mucin secretion by the tumor becomes prominent. Tumors are divided into two main types depending upon the site of involvement of the duct system (main duct *vs* branch duct). These types have some clinically important differences. Main duct tumors are more likely to progress as compared to branch duct tumors.[16] IPMT has been found to be associated with a high incidence of other non-pancreatic neoplasms, particularly colorectal tumors. In one series of 42 patients with IPMT, 32% were found to have nonpancreatic neoplasms, which was significantly higher than invasive with ductal carcinoma of pancreas.[17]

Ultrasound is a noninvasive and convenient method for screening pancreatic lesions. It may show a well-rounded or ovoid cystic mass, but better delineation is achieved with endoluminal ultrasound (EUS). EUS is being used increasingly to diagnose pancreatic diseases. It shows the fine structure of cystic lesions better than standard ultrasound because of its higher resolution. Cystic lesions, mural nodules within cysts, and cyst wall thickness can be seen much more clearly. Different echo patterns can differentiate between mucin and solid tumor. It is difficult to clearly differentiate between adenoma and adenocarcinoma (especially carcinoma *in situ*) unless there is invasion of surrounding tissues. It may be difficult to differentiate between a mucus plug and a true polypoid growth and flat lesions may be missed. Sugiyama et al[18] retrospectively analyzed the EUS characteristics of IPMT and reported EUS signs indicative of malignancy. They found that main duct or combined type tumors, large tumors (≥30 mm for branch duct type), marked dilatation of the MPD (≥10 mm for other types), and mural nodules suggest malignancy. The EUS criteria had accuracy as high as 92% and EUS allowed precise diagnosis of the presence, subtype, size, and extent of IPMT.

Computerized tomography scan with thin helical sections is another helpful aid in the diagnosis and estimation of the extent of the tumor. It can show round to ovoid multilocular cysts with dilatation of the pancreatic ducts, and may show a bulging papilla. The most frequent feature of IPMT is lobulated multilocular cystic lesions which may be located in close proximity to main pancreatic duct. Bulging papilla and diameter of the main pancreatic ducts are helpful in predicting the malignant behavior of the tumor.[19]

Endoscopic retrograde cholangiopancreatography is essential for establishing the conclusive diagnosis of IPMT. The endoscopic and radiographic findings associated with an intraductal papillary mucinous neoplasm are characteristic, unique, and have high diagnostic accuracy. They include patulous orifices of the major and minor papillae, mucin extruding from the orifice, the demonstration of amorphous filling defects in a dilated pancreatic duct, and a communication between the cystic lesion and the pancreatic duct. Raijman et al[20] have proposed separation of the openings of bile and pancreatic ducts as another criterion. ERCP has some disadvantages including difficulty in complete opacification of the pancreatic ducts and cysts due to the presence of abundant mucin and enlargement of the papillary orifice.

Magnetic resonance cholangiopancreatography (MRCP) is a recently developed technique that noninvasively demonstrates the biliary tree and pancreatic ducts. Half-Fourier acquisition single-shot turbo spin-echo (HASTE) sequence acquires high-quality images rapidly, allowing a global view of the pancreaticobiliary tract and cystic tumors from all perspectives. MRCP and ERCP are considered complementary to each other.[21]

Pancreatoscopy is another technique that may be used to diagnose IPMT though it is available only in a few centers. It can detect flat lesions, and direct visualization helps to differentiate papillary growths from mucus plugs. Biopsies of the suspicious areas can also be taken under direct vision. Recently intraoperative pancreatoscopy has been found to be safe and effective.[22]

Complete surgical resection of the tumor is recommended to relieve symptoms and because it is frankly malignant or premalignant.[23] There is an argument about total resection of the pancreas *vs* partial resection. The extent of pancreatic resection should be decided according to the findings of preoperative imaging studies, intraoperative ultrasound, and frozen section of the surgical margins. It is important to ensure that the surgical margins are clean with the help of frozen sections because the tumor grows as a flat lesion along the duct wall. In case of malignant IPMT, lymph node dissection should be performed.[24] There have been suggestions about enucleation of benign IPMT, though not widely accepted.[25] Survival rate five years after complete resection has been reported from 82% to 92%, though for benign IPMT it is close to 100%.[1,15,17] Recurrences after partial pancreatectomy, though uncommon, may be related to incomplete resection of multicentric lesions.

In summary, IPMT is a rare tumor with a relatively benign course and a good prognosis. Clinical presentation can vary from totally asymptomatic to symptoms of varying degree and proportions. A mass with multiple cysts should raise a suspicion of this entity and ERCP is helpful in making a presumptive diagnosis. It is difficult to differenctiate invasive from noninvasive tumors preoperatively and a complete surgical resection should be the goal. Association of this tumor with other non-pancreatic tumors should also be kept in mind.

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Primary Epiploic Appendagitis: An Etiology of Acute Abdominal Pain

ZEBA SAJJAD, M.D., NAEEM SAJJAD, M.D., MALCOLM FRIEDMAN, M.D.,
AND STEPHEN A. ATLAS, M.D.

ABSTRACT—Primary epiploic appendagitis has a nonspecific clinical presentation but a pathognomonic appearance on computerized tomography. We report a patient who was promptly diagnosed and treated with conservative management, and review the literature. This entity has not been well described in the general medical literature. Epiploic appendagitis should be considered in the differential diagnosis of atypical presentations of acute abdominal pain. Integration of a patient's history and physical exam with laboratory and computerized tomography findings allows a timely and confident diagnosis. Surgery is not necessary, but close follow-up is required.

PRIMARY epiploic appendagitis (PEA) is caused by torsion and consequent infarction of an epiploic appendage.[1] This entity is an uncommon but important consideration in the differential diagnosis of acute abdominal pain. While it has been well described in the surgical and radiologic literature, PEA has not been reported in general medical journals. We report a patient we recently cared for with PEA and review its clinical features and differential diagnosis.

Epiploic appendages are small pouches of peritoneum laden with fat and small blood vessels. They are 0.5–5.0 cm. long and protrude from the serosal surface of the colon, from the cecum to the rectosigmoid junction (Fig. 1). Spontaneous torsion, ischemia or inflammation of an epiploic appendage is known as primary epiploic appendagitis. It is manifested by the sudden onset of focal abdominal pain and has a characteristic, albeit nonspecific, presentation. In one study, computerized tomography (CT) revealed the diagnosis of PEA in about 2% of patients suspected of having sigmoid diverticulitis or appendicitis, who underwent such imaging.[1] Surgery can usually be avoided if its pathognomonic computed tomography (CT) or ultrasound (US) findings are recognized.

Case Report

A 31-year-old male presented to the Hospital of Saint Raphael's emergency room with severe right lower quadrant pain. The pain had begun suddenly, three days before, and progressively worsened. It was continuous but partially improved with rest and bowel movements. The patient did not experience fever, nausea, or change in bowel habits. The pain was intensified by inspiration.

The initial examination in the emergency room revealed the abdomen to be soft but notable for severe right lower quadrant tenderness, without rebound. The rectal examination was unremarkable and the stool guaiac negative.

A complete blood count and chemistries were normal. A CT of the abdomen (Figs. 2 and 3) showed a 1.2 cm oval area of focal inflammatory change above the cecum, with the attenuation of fat, and associated stranding. No diverticula were identified. Based on the CT scan results, a diagnosis of epiploic appendagitis was made and the patient was discharged from the emergency room. He was advised to take clear liquids. When he was examined in the ambulatory department a few days later, the intensity of

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ZEBA SAJJAD, M.D., Third Year Resident, Department of Medicine, Hospital of Saint Raphael, New Haven; NAEEM SAJJAD, M.D., Staff Physician, East Boston Neighborhood Health Center, East Boston, Mass.; MALCOLM FRIEDMAN, M.D., Attending Radiologist, Hospital of Saint Raphael, New Haven; STEPHEN A. ATLAS, M.D., Medical Director, Primary Care Center, Department of Medicine, Hospital of Saint Raphael, New Haven, Associate Clinical Professor of Medicine, Yale University School of Medicine, New Haven.

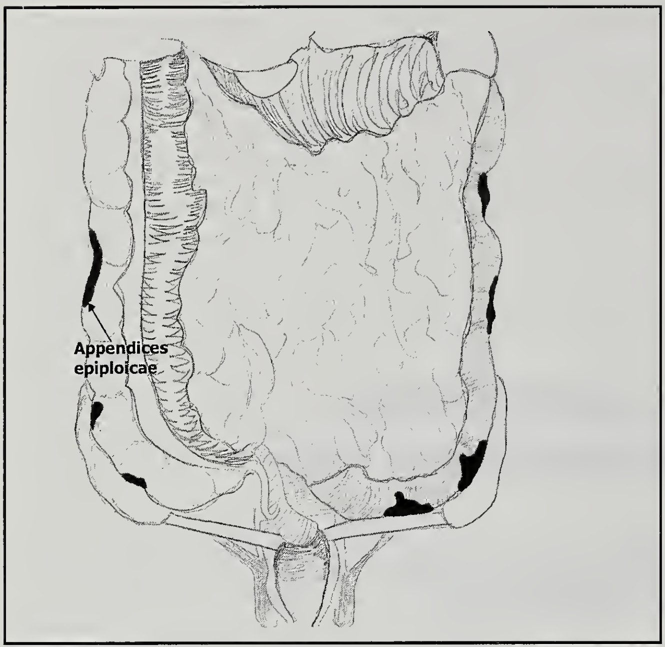

Figure 1.—Appendices epiploicae.

his pain had improved and he was not requiring any medication. His diet was advanced and he became asymptomatic over the next week.

Discussion

Epiploic appendagitis is attributable to the inflammation of one of the approximately one hundred epiploic appendages. The inflammation may be primary or secondary to inflammation of adjacent structures. Primary appendagitis is usually the result of torsion, with resultant ischemia, but can also be caused by spontaneous venous thrombosis. Fat cells comprise the bulk of the appendage and interruption of their venous or arterial supply results in ischemic infarction.[1] Secondary appendagitis may result from inflammation of neighboring organs, ie, colonic diverticula, appendix, gall bladder.[2]

Patients usually present with sudden, severe pain at the site of infarction. The pain may be dull, sharp or colicky, is of mild to moderate severity and typically lasts three to five days. Resolution of the pain within 14 days from its onset is still considered compatible with PEA. The symptomatic site varies with the location of the affected appendage. The pain is most frequently present in the right lower quadrant (50% of the cases), owing to the position of the sigmoid colon and cecum.

Occasionally the pain may spread centrally or to the left side. The left lower quadrant is the next most common site (36%). The pain is typically aggravated by coughing, breathing or abdominal stretching. Guarding and rebound tenderness may be elicited and a small mass can occasionally be palpated. Concomitant symptoms may include nausea and vomiting. Constipation occurs in 9% of patients and diarrhea in 5%.[3] The patient is usually not acutely ill. The temperature may range up to 102° F, but is usually below 99° F, orally and the average white cell count is 11,000 per cubic mm.

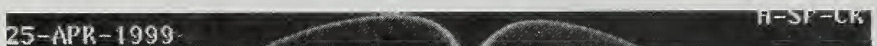

Figure 2.—CT scan: Thick arrow points to oval density with associated haziness and stranding of the pericolic fat consistent with epiploic appendagitis. Thin arrow points to normal fat attenuation.

The typical CT findings of PEA include an oval shaped paracolic mass with the attenuation of fat, but higher than "normal uninvolved fat." The visceral peritoneal lining is thickened and often associated with periappendageal fat stranding. Occasionally, a central high attenuating dot, representing the thrombosed appendageal vein, is visualized.[1–3]

An US examination can also point to the diagnosis of PEA. A noncompressible ovoid mass, adherent to the parietal peritoneum and correlating with the location of the patient's maximum tenderness, suggests the diagnosis.

The CT scan is quite helpful in the differential diagnosis of atypical abdominal pain. Diverticula and colonic wall thickening are usually seen in cases of diverticulitis, which can lead to secondary appendagitis.[1] Periappendicular or cecal changes, a distended appendiceal lumen with wall thickening, an appendicolith with fat stranding, fluid,

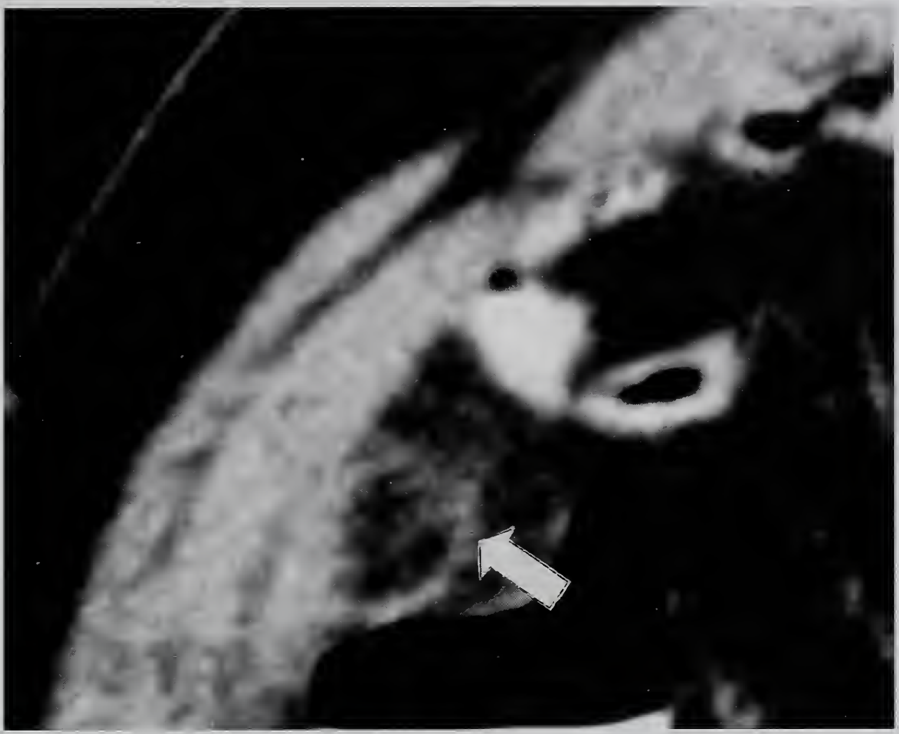

Figure 3.—Arrow points to the inflamed epiploic appendage.

abscess or adenopathy are the classic CT appearance of appendicitis. The accuracy of CT for appendicitis has been shown to be as high as 98%.[5] Spontaneous segmental infarction of the greater omentum is a rare entity which resembles epiploic appendagitis.[4] The CT scan can usually easily differentiate between the two because of the greater omentum's larger image size and its location, medial to the ascending or descending colon. A discrete oval or round mass should not be present.

It has been suggested in the past surgical literature that PEA be best managed by ligation and excision of the involved appendage.[3] In most of the cases diagnosed non-invasively, conservative management provides an excellent alternative. Pain control and observation are usually sufficient. Our patient's signs and symptoms resolved with such conservative therapy.

In conclusion, epiploic appendagitis should be considered in atypical presentations of abdominal pain. It can be confidentially diagnosed with its characteristic presentation and CT findings. Surgery is usually not necessary, but close follow up is appropriate.

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SLS 834

Interpregnancy Interval as a Risk Factor for Placenta Accreta

JOSEPH R. WAX, M.D., ADRIANNE SEILER, SHERYL HOROWITZ, PH.D., AND CHARLES J. INGARDIA, M.D.

ABSTRACT—*Objective*: To determine if the interval from a previous delivery or cesarean to the next conception differs between patients with abnormally adherent placentas as compared to those with normally implanted placentas. *Methods:* We identified all histologically confirmed placentas—accreta, increta, and percreta—at our hospital from 1992–1999. Subjects were excluded for primigravidity in the affected pregnancy or inability to identify matched controls. Cases were matched to the next three consecutive women delivering for maternal age (≥35 years or <35 years), placenta previa (yes or no), prior cesarean (yes or no), prior uterine curettage (yes or no), and prior vaginal delivery (yes or no). The primary outcomes were delivery–to–conception and cesarean–to–conception intervals. Secondary outcomes included measures of maternal and neonatal morbidity. *Results:* Delivery–to–conception intervals for cases and controls were 37.1 ± 18.7 months and 37.9 ± 22.7 months, respectively (*P*=.91). Cesarean–to–conception intervals for cases and controls were 35.2 ± 18.2 and 48.1 ± 31.0 months, respectively (*P*=.35). Cases were more likely to require uterine curettage (54.5 *vs* 0%), hysterectomy (81.8 *vs* 0%), and transfusion (72.7 *vs* 0%), all *P*<.001. Subjects with accreta delivered earlier (31.7 ± 9.4 *vs* 38.1 ± 2.6 weeks, *P*=.054) and smaller infants (2,158 ± 1,180g *vs* 3,159 ± 781g, *P*= .006) who were more likely to have five-minute Apgar scores <7 (18.2% *vs* 0%, *P*=.038). *Conclusions:* Cesarean–to–conception intervals but not delivery-to-conception intervals are shorter in patients with abnormally adherent placentas. Placenta accreta is associated with significant maternal and perinatal morbidity.

PLACENTA accreta is a condition in which the placental villi are abnormally adherent to the myometrium as a result of attenuated decidua basalis and absent fibrinoid layer of Nitabuch. Three distinct forms are placenta accreta where the villi are adherent to the myometrium, increta with villous invasion of the myometrium, and percreta, characterized by myometrial invasion with serosal penetration. Massive hemorrhage commonly occurs, often requiring hysterectomy and transfusion. Placenta percreta incurs the additional risk of invading adjacent organs such as the bladder.[1]

Risk factors for placenta accreta include previous cesarean delivery.[2,3] The cesarean rate in the United States reached 24.7% in 1988 and approximately one-third of cesareans are now elective repeat procedures. Vaginal birth after cesarean (VBAC) is a reasonable option for many women, with a 60% to 80% success rate. A potentially catastrophic complication of VBAC is uterine rupture, occurring in 0.3% to 1.5% of VBAC attempts.[4] Recent data suggest that women experiencing uterine rupture during VBAC have shorter cesarean-to-conception intervals than women without rupture.[5,6] Conceivably, incomplete uterine healing may contribute to this phenomenon.

JOSEPH R. WAX, M.D., Associate Professor, University of Connecticut School of Medicine, Associate Director, Maternal Fetal Medicine, Hartford Hospital; ADRIANNE SEILER, Senior, Trinity College, Hartford; SHERYL HOROWITZ, PH.D., Research Analyst, Hartford Hospital; CHARLES J. INGARDIA, M.D., Associate Professor, University of Connecticut School of Medicine, Director of Maternal Fetal Medicine, Hartford Hospital, Hartford.

For similar reasons, short interpregnancy intervals may also contribute to the development of placenta accreta.[7,8] We performed a case matched-control study to determine if the delivery-to-conception and cesarean-to-conception intervals differed in pregnancies with, *vs* those without placenta accreta.

Methods

This case-control study was approved by the hospital institutional review board. All patients were identified with histologically confirmed placenta accreta, increta, and percreta who delivered at our hospital from 1992–1999. Cases were excluded for primigravidity in the affected pregnancy or inability to find matched controls. Subjects were matched to the next three consecutive women delivering two pregnancies at our hospital for the factors incurring the greatest accreta risk; maternal age (≥35 or <35 years), placenta previa (yes or no), prior cesarean (yes or no), prior uterine curettage (yes or no), and prior vaginal delivery (yes or no). When possible, controls were selected to further match cases for the number of previous cesareans, curettages, and vaginal deliveries.

The primary outcomes were delivery-to-conception and cesarean-to-conception intervals. Estimated dates of conception of the affected pregnancies were back calculated from the best obstetrical estimate, including last menstrual period and ultrasound examination. Secondary outcomes included measures of maternal and neonatal morbidity associated with placenta accreta. Maternal complications included uterine curettage, hysterectomy, transfusion, and intensive care admission. Newborn assessments included gestational age at delivery, birthweight, neonatal intensive-care unit (NICU) admission, length of NICU stay, and five-minute Apgar score <7. All data were abstracted from the computerized perinatal and NICU databases, as well as the medical charts.

Dichotomous variables were compared with Fisher's exact test, while continuous data were analyzed by the two-tailed student t-test.

Results

A total of 38,003 deliveries occurred during the eight-year study period, including 18 (0.04%) with placenta accreta. Three patients (17%) were excluded for no prior pregnancy and four (22%) because no matched controls were available. The remaining 11 subjects comprised the study population. One subject could be matched to only two patients, providing a total of 32 controls.

Table 1.—Demographics

	Cases (%) (n=11)	**Controls (%) (n=32)**
Maternal age (years)	33.4 + 5.9	31.7 + 5.9
Parity		
1	6 (54.5)	19 (59.4)
2	2 (18.2)	7 (21.9)
≥3	3 (27.3)	6 (18.9)
Race		
Caucasian	8 (72.7)	15 (46.9)
Hispanic	1 (9.1)	9 (28.1)
Black	2 (18.2)	5 (15.6)
Other	0 (0)	3 (9.4)
Insurance		
Public	4 (36.4)	13 (40.6)
Private	7 (63.6)	19 (59.4)
Maternal weight (lb)	160.1 ± 25.7	178.6 ± 47.1

(all comparisons not statistically significant)

Maternal demographics including age, race, parity, weight, and insurer did not differ significantly (Table 1). Subjects and controls had similar risk factors for accreta (Table 2). Delivery-to-conception intervals for cases and controls were 37.1 ± 18.7 and 37.9 ± 22.7 months, respectively (*P* = .91). Cesarean-to-conception intervals for cases and controls were 35.2 ± 18.2 and 48.1 ± 31.0 months, respectively (*P*= .35).

Subjects were more likely than controls to require uterine curettage, hysterectomy, and transfusion proximate to delivery (Table 3). Women with abnormally adherent placentas also delivered smaller babies at earlier gestational ages which more often had five-minute Apgar scores <7 (Table 4).

Table 2.—Risk Factors for Abnormal Placental Adherence

	Cases (%) (n=11)	**Controls (%) (n=32)**
Maternal age ≥35 years	4 (36.4)	11 (34.4)
Placenta previa	2 (18.2)	5 (15.6)
Number of prior cesareans		
0	5 (45.5)	15 (46.9)
1	4 (36.4)	8 (25.0)
2	2 (18.2)	9 (28.1)
Number of prior vaginal deliveries		
0	4 (36.4)	11 (34.4)
1	4 (36.4)	13 (40.6)
2	3 (27.3)	8 (25.0)
Number of prior dilations and curettage		
0	4 (36.4)	11 (34.4)
1	4 (36.4)	13 (40.6)
≥2	3 (27.3)	8 (25.0)

(all comparisons not statistically significant)

Table 3.—Maternal Outcomes

	Cases (%) (n=11)	Controls (%) (n=32)
Route of Delivery		
Cesarean	5 (45.5)	15 (46.9)
Vaginal	4 (36.4)	17 (53.1)
Dilation and evacuation	2 (18.2)	0 (0)
Adjunctive Treatments		
Dilation and curettage	6* (54.5)	0 (0)
Hysterectomy	9* (81.2)	0 (0)
Transfusion	8* (72.7)	0 (0)
Intensive care admission	2 (18.2)	0 (0)

*P< .001

Discussion

We found no difference in the delivery-to-conception interval for pregnancies with placenta accreta as compared to those unaffected by the condition. A retrospective power calculation demonstrated that 12,000 subjects would be necessary to detect a one-month interpregnancy interval difference between patients with, compared to those without, accretas. Thus, it is likely that no true difference exists with respect to this outcome.

In addition, we chose to examine the cesarean-to-conception interval, as one patient had an intervening VBAC before experiencing an accreta. Although not statistically significant, the 13-month (37%) longer cesarean-to-conception interval observed in patients without accretas may prove to be clinically significant. Ninety-two subjects would be needed for this difference to reach statistical significance.

Table 4.—Neonatal Outcomes

	Cases (%) (n=11)	Controls (%) (n=32)
Gestational age at Delivery (weeks)	31.7 ± 9.4^{x}	38.1 ± 2.6
Birthweight (grams)	$2{,}158 \pm 1180^{*}$	$3{,}159 \pm 781$
Neonatal intensive-care admission	3 (27.3)	6 (18.9)
Neonatal intensive-care stay (days)	44.3 ± 5.14	25.5 ± 26.2
Five-minute Apgar <7	2^{+} (18.2)	0 (0)

^{x}P= .054 *P= .006 $^{+}$P= .038

Only one other report evaluated interpregnancy interval in women with and without abnormally adherent placentas. To et al studied 43 patients with a prior cesarean and placenta previa. There were four cases of accreta and 39 unaffected pregnancies. The mean interpregnancy intervals for these two groups, 2.50 ± 0.58 and 2.26 ± 0.71 years, respectively, were not significantly different.[7]

Our population experienced approximately one accreta for every 2,100 births, similar to the one in 2,500 rate noted in a recent study from California.[2] The prevalence of this condition has increased, paralleling the rising cesarean delivery rate over the same time period.[4] Maternal morbidity, such as blood transfusion and peripartum hysterectomy, occurred in our study at frequencies similar to previous reports.[3,7]

Pregnancies complicated by accreta showed a trend toward earlier gestational ages at delivery, with these infants having lower birthweights and five-minute Apgar scores than newborns of controls. A review of our cases revealed that one subject was delivered by elective termination at 13 weeks, one subject had an intrauterine death at 24 weeks, and one patient spontaneously delivered at 20 weeks. Thus, the difference in neonatal outcomes between cases and controls appears to be an artifact of obstetric procedures and complications unrelated to the underlying placenta accreta.

In summary, placenta accreta continues to incur signficant maternal morbidity. While we did not find interpregnancy intervals significantly different between pregnancies with *vs* those without accreta, cesarean-to-conception intervals were, on average, 13 months longer in gestations unaffected by accreta. Due to the relative infrequency of this condition, we propose a multicenter study of similar design to further investigate our hypothesis.

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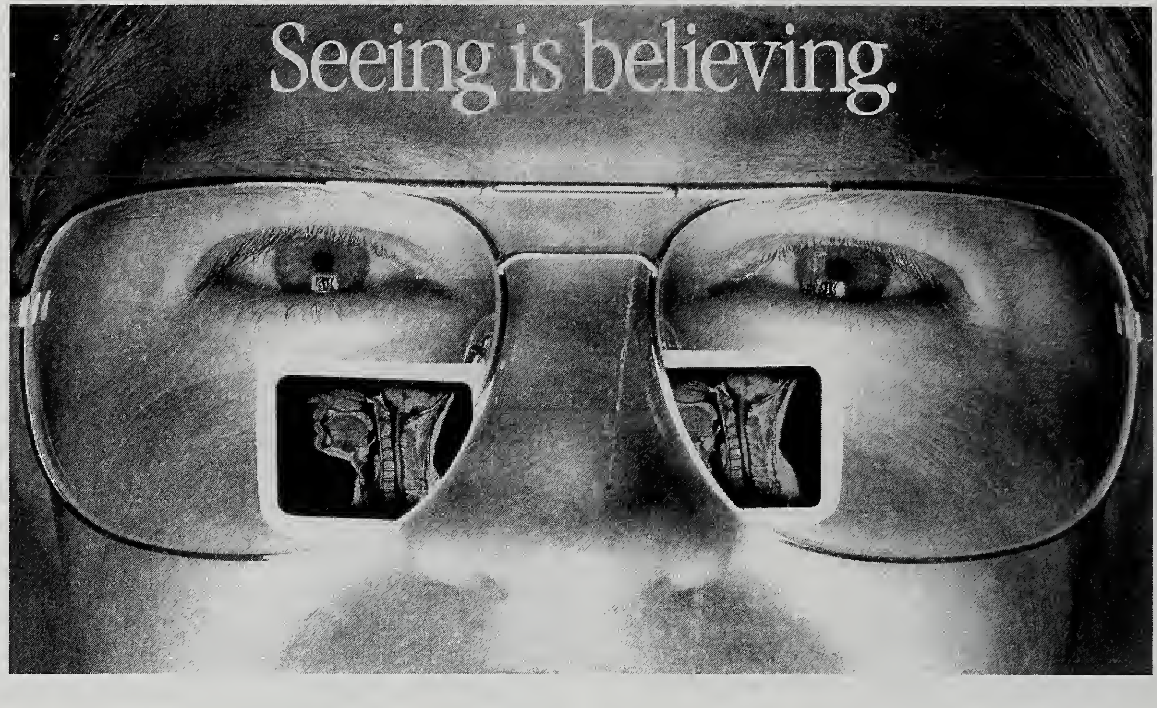

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Gambling Use Disorders—A Public Health Problem

YIFRAH KAMINER, M.D.

ABSTRACT—The growing availability of state-owned and sponsored gambling has been associated with an increased prevalence of pathological gambling that has been linked to mounting social costs. In 1999 the State of Connecticut generated 811 million dollars from legalized gambling. However, only about one million dollars was allocated to clinical and preventive interventions. In order to strike an effective balance between economic benefits and social costs attributed to the expansion of the gambling industry, states should devote sufficient resources designed to: 1) assess the magnitude of the gambling behavior spectrum; 2) evaluate its social and economic consequences; 3) develop a primary prevention curriculum in schools and a secondary prevention curriculum for youth at high risk, 4) develop outreach programs to increase public awareness of the symptoms of problem/pathological gambling, and 5) provide and/or fund treatment services for problem and pathological gamblers including social service support systems for their families. States should then perform periodic cost–benefit analyses to decide if, when, to what extent, and how to regulate the gambling industry.

Introduction

THE widespread proliferation of legalized gambling throughout the United States has reached all but two states, Utah and Hawaii. The impressive economic success of the "Gaming" industry may be attributed to three factors: 1) the increasing dependence of states on gambling revenues as one of their chief sources of income, 2) the innovative marketing strategy of gambling facilities as theme-park-focused family entertainment, and 3) new technologies and forms of gambling which increase the availability and appeal of this activity to all segments of society (eg, video lottery terminals, powerball mega-lotteries, computer gambling).

While gambling at large is viewed as a form of entertainment that contributes to economic growth, like other addictive legalized substances (eg, alcohol, tobacco), social costs accompany the derived benefits. Along with the increase in gambling opportunities and expenditures, the number of individuals gambling and the number experiencing gambling-related problems has increased significantly.[1] Given the prosperity of the gambling industry as demonstrated by 1998 figures of consumer spending of approximately $53 billion, it is surprising that only a few states have prepared and made available to the public cost/benefit analyses of the social and economic consequences of gambling activities. For example, Nevada, the Mecca of gambling, has not mandated such analyses. Perhaps the increasing influence of the industry in Nevada, and other states and in Washington D.C., has reduced the motivation to conduct such reports that might limit the opportunity for growth of gambling operations and their revenues. The public interest would be well served by such analyses that could provide empirical information to legislators and enable them to make informed regulatory decisions and consider funding for prevention and treatment services.

Terminology

In 1928 Freud published an essay about the pathological gambling of Fyodor Dostoyevsky, the Russian author who wrote the novel *The Gambler* based on his personal

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YIFRAH KAMINER, M.D., M.B.A., Department of Psychiatry and Alcohol Research Center, University of Connecticut Health Center, Farmington.

experience. Not until 1980 was pathological gambling acknowledged as a psychiatric disorder by the American Psychiatric Association. The classification of pathological gambling as a psychiatric disorder was followed by the development of a valid, reliable screening tool the South Oaks Gambling Scale (SOGS),[2] and preliminary neurobiological studies that implicated serotonergic dysfunction in pathological gambling.[3] Pathological gambling is characterized by recurrent and persistent maladaptive gambling behavior. In the DSM-IV[4] it is classified as an impulse-control disorder.

Social gambling is considered to be an activity primarily for entertainment, for a limited time, and with predetermined acceptable losses. At-risk gamblers meet one or two DSM-IV criteria, while problem gambling is an intermediate category that meets three or four criteria. Pathological gamblers meet five or more DSM-IV criteria. Accompanying problems may include personal, family, interpersonal, legal, financial, and vocational or academic difficulties. The commonly used term "compulsive" gambling is controversial among researchers and DSM-IV makes the distinction that gambling is considered a pleasurable activity that a person may wish to resist only because of its harmful consequences.

History and Magnitude of the Problem

The history of government involvement in legalized gambling in North America started in 1892 when Canada mandated that gambling be regulated under federal law in order to control gambling activities.[5] In Canada, only governments can "manage and conduct" gaming ventures or authorize charitable gaming under license. Private sector ownership is prohibited. Another milestone in the history of gambling on this continent was in 1957 when Gamblers Anonymous (GA) was established as a self-help fellowship to assist compulsive gamblers based on the principles and practices of Alcoholics Anonymous.

In 1976, 13 states had lotteries, Nevada and New York had approved off-track wagering, and there were no casinos outside of Nevada. Today 37 states have lotteries and off-track betting and 21 states have casinos. The gambling industry has grown 10-fold and revenues have increased by 1,600%.[5] In 1997 President Clinton established the National Gambling Impact Commission to examine the social and economic impact of gambling in the U.S. This represents the first such study by a national scientific organization. This effort resulted in the Gambling Impact and Behavior Study: Report to the National Gambling Impact Study Commission March 18, 1999. This study was conducted primarily by the National Opinion Research Center at the University of Chicago.[1]

The Gambling Impact and Behavior Study evaluated 2,417 adults and 534 adolescents (16 and 17 years of age), interviewed by phone, 530 adults intercepted in gambling facilities, 100 community statistical data bases, and 10 community case studies on the effects of casino openings.

Analyses of the national data indicate that rates of pathological gambling have doubled since 1976 to 1.4% and combined point-prevalence rates of problem and pathological gamblers are estimated to be as high as 7.1%. Based on DSM-IV criteria,[4] 2.5 million adults are pathological gamblers, another three million are problem gamblers, and 15 million adults are at risk for problem gambling. This study also indicated that men are more likely to be pathological, problem, or at-risk gamblers than women. African Americans are at higher risk for pathological gambling than other racial/ethnic groups. Availability of a casino within 50 miles is associated with approximately double the prevalence of problem and pathological gamblers. Pathological gamblers, who comprise roughly 2.5% of adults, are estimated to account for 15% of receipts.

Particularly striking is the prevalence of gambling behavior among the youth. Shaffer and Hall[6] investigated nosological differences in gambling behavior of adolescents. With different definitions of adolescent gambling behavior and various methods for data gathering in nine North American studies of 7,700 adolescents, they concluded that a three-level gambling behavior severity scale is useful for adolescents. Level 1 consists of Nonproblem, Social, or Nonpathological gambling and accounts for 78% to 83% of adolescents with gambling behavior. Level 2 is defined as At-Risk or In-Transition gambling, and represents a subclinical but meaningful level of gambling involvement and problem symptoms. This level accounts for 9.9% to 14.2% of adolescents with gambling behavior. Level 3 consists of Serious Problem or Pathological Gambling and accounts for 4.4% to 7.4% of adolescents with gambling behavior.

Correlates of Gambling Behavior in Youth

There are reasons to be concerned about the current status of gambling disorders, particularly among youths and their families. The acquisition and development of gambling behavior begins during childhood and adolescence. Correlates of problem gambling include poor academic achievement, truancy, being a male, regular drug use, delinquency, progression to further problematic gambling behaviors, and problematic parental gambling.[7] As seen in teens with substance use disorders,[8] adolescents involved in problem or pathological gambling were more likely to be involved in aggressive behavior, stealing, school truancy, drug sales, and prostitution.[9-10] There is an increased incidence of alcoholism, substance use disorders, comorbid psychiatric disorders, suicidal behavior, and other gambling related problems among pathological gamblers and their family members.[11]

Social Costs Associated with Problem and Pathological Gambling

Problem and pathological gamblers are twice as likely to seek help for physical as well as emotional illness. Personal problems include symptoms of depression and anxiety and high rates of suicidal behavior. It is noteworthy that Nevada has the highest rate of suicidal behavior in the U.S. Familial studies indicate high rates of divorce and separation among heavy gamblers and less cohesion and independence compared to families of non- or infrequent gamblers. Vocational problems include absenteeism, deterioration of work performance, and interpersonal conflicts with coworkers. Financial difficulties are prevalent and heavy gamblers frequently report spending more than they intend. Heavy gambling that persists may develop into pathological gambling with average gambling debts ranging from $30,000 to $120,000.

Financial Costs

A study of the social costs of pathological gambling requires: 1) an estimation of the incidence of pathological gambling behavior in the population, 2) an identification of those consequences of gambling pathology that create costs for the rest of society and are referred to as "social costs," and 3) measurement of these costs. Despite recent progress within this area of research, it appears that the social and economic impact of problem gambling cannot be accurately determined. Quantitative data indicating the severe costs created by gambling pathology such as time missed from work, personal property sold, and money borrowed to finance gambling, arrests for gambling related offenses, and treatment costs has been helpful in estimating the social cost of problem and pathological gambling to society. Pathological and problem gamblers in the U.S. cost society five billion dollars per year and an additional $40 billion in lifetime costs for productivity reduction, social services, and credit losses.[1]

National Policies

The long-term social, economic, and health impact arising from the dramatic expansion of legalized gambling only recently has begun to be examined thoroughly or debated in the public policy arena. Controversy consistently surrounds the shifting social and political environment that has permitted the growth of gambling. For governments, there is considerable ambivalence as to the appropriate balance between new gambling programs and regulating policies. Examples from three states demonstrate gambling related problems that need to be addressed by state and federal governments. In Wisconsin property and burglary crimes have increased with the arrival of casinos, resulting in 51 million dollars in social costs per year. In Florida it was projected that if casinos were legalized, the social costs resulting from increased crime would be more than five billion dollars per year. A recent report from the Governor's office in South Carolina indicated that three times as many Gamblers Anonymous groups were formed following the widespread introduction of video gaming machines.[12] The report contends that the social costs to the State are three to five times the revenues generated from these machines. The gambling industry helped defeat then–Governor Beasley's reelection bid after he called the games the "crack cocaine of gambling" and tried to outlaw them. Most recently the South Carolina Supreme Court ruled that video gambling would be banned inJuly 2000.[13]

Some church groups oppose the expansion of gambling on moral and ethical grounds. On the other end, the casino industry lobbies states and municipalities for opportunities to develop more gambling facilities. According to Kindt,[14] in general, industry reports focus on economic benefits related to legalized gambling. As a result, citizens in communities which are considering introducing new forms of gambling are often ill-informed about the possibilities of increased problem gambling or the social costs associated with increased gambling, such as crime, health costs, etc. Kindt concluded that when communities are given a chance to examine the true costs, casino gambling is opposed by citizens.

Throughout North America, stakeholders reflect the full spectrum of gambling-related public policy positions, that is, from advocacy to abolition. Ultimately, the question remains as to whether the economic gains and employment benefits outweigh the social consequences and costs.

It is noteworthy that the American Medical Association adopted a resolution citing the addictive potential of gambling and called on states to set aside a fixed percentage of gambling revenues for education, prevention, and treatment. Other important associations such as the American Public Health Association and the Association for Public Health Policy are still lagging behind and have not yet dealt with this important issue.

Costs of Treatment

Treatment costs incurred by families, insurance companies, and states are difficult to calculate due to the inability to control for comorbid conditions. However, annual health-care expenditures were elevated by $750 on average for a pathological gambler and amounted to approximately $3,800 per capita.[1] Mental health care for problem and pathological gamblers is in excess of 7% per capita compared to an average cost of $5,000 per year.[1] Volberg[15] estimated that only about 3% of current pathological gamblers receive professional treatment in a given year with average costs per patient of about $1,000. Lifetime health costs are estimated at $5,000 for a problem gambler and about double this amount for a pathological gambler. This rate of treatment is much lower than rates for persons with drug addiction (about 33%), alcoholism (15% to 20%), and other mental disorders (ranging from 40% to 80%).

Whereas the economic costs and contributions of problem and pathological gambling can be calculated, it does little to address the personal and interpersonal costs in dysfunctional families, children's acute mental distress and everyday functioning, increased vulnerability of the childrent to the development of pathological gambling, and other intangibles.[16]

Based on an extensive research review[17] it seems appropriate to conclude that although legalized gambling contributes to pathological gambling the extent of it cannot be determined accurately.

The Connecticut Experience

1. *Magnitude of the problem.*—According to the WEFA Group study[16] that used the South Oaks Gambling Scale (SOGS) for the assessment of gambling behavior in Connecticut 0.6% of Connecticut residents fit the category of current probable pathological gamblers and 2% qualify for a lifetime prevalence. However, the margin of error is 0.5% or 12,000 persons. Thus the number may be as low as 3,000 or as high as 27,000. Connecticut's combined lifetime prevalence rate is one of the highest in the country.
2. *Utilization of available services.*—Only 425 clients were treated at the 10 Compulsive Gambling Treatment sites of the Department of Mental Health and Substance Abuse Services (DMHAS) during 1999 (up from 50 in 1992). There are 30 chapters of Gamblers Anonymous in the state.

   Connecticut Council on Problem Gambling operates a 24-hour Help-line for callers seeking help with a gambling problem for themselves or someone they care about. The number of calls received in 1998 was 1,061. The Connecticut Council is also involved in a public awareness campaign, disseminating and publishing prevention information, publications, and a prevention newsletter.
3. *Social costs.*—An empirical investigation was conducted in 1997 by the WEFA group on pathological gamblers in treatment groups (since not enough pathological gamblers were identified in their random telephone survey of approximately 1,000 people). The results were reported in terms of the profiles of the gamblers. The authors were reluctant to place a dollar value on the cost of a pathological gambler, indicating that their population is not representative. Findings revealed that 555 of the gamblers in treatment reported gambling to be the primary cause of their divorce or separation; 89% reported cashing in stocks and bonds to support their gambling activities, 18% reported receiving unemployment compensation for a job lost due to gambling problems, and 67% indicated missing time from work (an average of 21 hours per week). The average annual estimated cost of treatment per gambler was reported to be $761, with 69% having these costs covered by their insurance.
4. *Legislation.*—CGS 12-563a requires the Division of Special Revenue (within available resources) to prepare and distribute informational material designed to inform the public of programs available for prevention, treatment, and rehabilitation of compulsive gamblers.
   - Each person or organization licensed to sell lottery tickets, operate Off-Track Betting (OTB), or conduct wagering on racing or Jai Alai must display informational material.
   - CGS 12-564b requires studies at least every five years concerning the effect of legalized gambling on the citizens of the State, including but not limited to, studies to determine the types of gambling activity engaged in by the public and the desirability of expanding, maintaining, or reducing the amount of legalized gambling permitted in the State. The joint standing committees of the General Assembly having cognizance of matters relating to legalized gambling shall each receive a report concerning each study carried out.
5. *Gross State Revenues from Legalized Gambling in 1999.*—Total transfers to the general state fund equaled approximately $811million.
   - Parimutuel wagering, OTB, Jai Alai, dog racing, and teletheater performance fees generated $324 million in wagers. Amount returned to public (prizes) was $252 million. Transfer to the state General Fund totaled $6.1 million, and only $231,000 was collected in accordance with the provisions of Public Act No. 86-312 and deposited in the Chronic Gamblers Treatment and Rehabilitation Fund.
   - Lottery revenues: Gross sales of seven lottery games reached an all time high generating $871 million. The amount of prizes awarded reached $517.6 million. Transfers to the general fund were $271 million (31.2%).
   - Native American casinos: Gross wager from slot machines $1.158 billion. Transfers to the general fund were $287 million.

6. *Funding mechanisms for education, prevention, and treatment programs.*—Total of all resources allocated for education, prevention, and treatment programs in 1999 was $881,000. The main contributions came from the Connecticut Lottery Corporation (CLC) and from the two large casinos (Foxwoods and Mohegan Sun) operating in the state. Senate bill 1 (session 1999) authorized funding from CLC for fiscal year 2000 in the amount of $875,000 and a $1.2 million contribution for every fiscal year thereafter.

   There is no specific formula for the funding of preventive or treatment services. Presently it depends loosely on utilization of services. Prevention efforts have received $330,000 this year from DMHAS. This money is being distributed between the Connecticut Council on Problem Gambling and the 13 Regional Acting Councils that provide coordinating function in the community regarding substance abuse and high-risk behavior. An informal committee on the Prevention of Youth Gambling composed of interested legislators, gambling behavior specialists, and senior state employees from the Division of Special Revenues has held preliminary discussions addressing the need to divert resources to develop school and community gambling behavior prevention curricula.

7. *Medical insurance.*—Two large health insurance organizations provided the following information regarding their reimbursement policies for gambling treatment.
   - Aetna: It is diagnosable and covered as a mental disorder. Aetna–100% for visits one to three and 50% thereafter up to $2,000.
   - Anthem: Between 15 to 40 inpatient days, 40 visits per year, 50% coverage if considered a mental health disorder, and 100% coverage if of a biological origin.

Recommendations Regarding Risk Factors, Clinical Issues, and Social Policy

- The issue of problem gambling and its social costs must become a major social policy issue.
- The development of scientifically validated gambling prevention programs for children and adolescents, as well as parent awareness and education programs.
- The State must assume responsibility for the social costs and potential harmful effects of legalized gambling. More funding for research, treatment, and prevention is essential. Greater control and enforcement of laws prohibiting underage youth from engaging in these activities must take place.
- More funding for additional outreach programs, screening procedures, and clinical treatment programs for adolescents with serious pathological gambling problems.
- A concerted national advertising campaign to discourage youth from gambling must be established.

Study of the Following Issues

1. The empirical definition and measurement of gambling behavior in adolescents;
2. The mechanism of initiation, transition between levels, and maintenance of gambling behavior;
3. The prevalence and correlates of gambling behavior with specific psychiatric disorders (eg, conduct, major depressive, anxiety, substance use);
4. The association of gender, race/ethnicity, parental history of problematic or pathological gambling, and sociodemographic variables with different levels of adolescent gambling.
5. The chronological relationship between gambling behavior, substance use disorders, and other psychiatric disorders;
6. The design of age-appropriate prevention and treatment plans for high-risk adolescents.

Conclusion

The state-of-the-art of intervention and research of gambling behaviors is reminiscent of the response to issues of another addiction, ie, substance abuse 25 years ago. Failure to draw attention to the needs of individuals (particularly youth) at high risk for problem and pathological gambling may result in an increase in the number of problem and pathological gamblers in this and the next generation. This may be accompanied by emotional and financial damage to these individuals and their families. Financial support for prevention and outreach programs are still not appropriately available. States should take responsibility for their respective contribution to gambling related social costs and respond to the needs of their citizens in a well planned and coordinated fashion. Contributing a fixed percentage of income from gambling revenues should be considered thus reflecting the rising revenues from legalized state operated and supported gambling.

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Updated Recommendations from the Advisory Committee on Immunization Practices in Response to Delays in Supply of Influenza Vaccine for the 2000–2001 Season

ON July 14, CDC reported a substantial delay in the availability of a proportion of influenza vaccine for the 2000–2001 season and the possibility of a vaccine shortage.[1] Since then, resolution of manufacturing problems and improved yields of the influenza A (H3N2) vaccine component have averted a shortage. Although safe and effective influenza vaccine will be available in similar quantities as last year, much of the vaccine will be distributed later in the season than usual. This update provides information on the influenza vaccine supply situation and updated influenza vaccination recommendations by the Advisory Committee on Immunization Practices (ACIP) for the 2000–2001 influenza season.

For the 1999–2000 influenza season, approximately 77 million doses of vaccine were distributed, of which three million doses were returned. On the basis of information provided by manufacturers, distribution of approximately 75 million doses is anticipated for the 2000–2001 season, including nine million doses that CDC has contracted with Aventis Pasteur (Swiftwater, Pennsylvania) to produce. Most vaccine doses usually become available to providers by October, with 99% of distributed doses available before December; this year, approximately 18 million doses are expected to be distributed in December.

The optimal time to administer influenza vaccine is October through mid-November[2] to assure that vaccination occurs before there is substantial influenza activity. In any influenza season, vaccine should continue to be offered after November to persons at high risk for influenza complications; this will be particularly important in this season in which vaccine delivery is delayed. The effectiveness of this approach is supported by surveillance data from the past 18 years, indicating that seasonal activity peaked four times in December, four times in January, seven times in February, and three times in March.

Vaccination of persons aged ≥65 years substantially reduces influenza morbidity and mortality. For each additional million elderly persons vaccinated, CDC estimates that approximately 900 deaths and 1,300 hospitalizations would be averted during the average influenza season (CDC, unpublished data, 2000). The health impact of individual seasons can vary widely on the basis of the size of the susceptible population, the prevalence of influenza infections, the type and strain of the predominating virus(es), and the match between the vaccine strains and those circulating in the community. The primary goal of influenza vaccination is to prevent severe illness and death from influenza infection and its complications. Although the severity of influenza seasons varies, an annual average of approximately 20,000 deaths and 110,000 pneumonia and influenza (P&I) hospitalizations result from influenza infections.[3–5] More than 18,000 (>90%) of these deaths and approximately 48,000 of the P&I hospitalizations per year occur among persons aged ≥5 years who are at highest risk for influenza-related complications.

Because of the potential health impact of delayed influenza vaccine availability, CDC and ACIP updated recommendations for the 2000–2001 season. The goal of these recommendations is to minimize the adverse health impact of delays on high-risk persons. Minimizing the adverse impact on this group will require an effective response by the private and public sectors, including actions that have not been undertaken during past seasons.

Updated ACIP Recommendations for the 2000–2001 Influenza Season

Persons at high risk for complications from influenza are:

1. Persons aged ≥65 years;
2. Residents of nursing homes and other chronic-care facilities that house persons of any age who have chronic medical conditions;
3. Children and adults who have chronic disorders of the pulmonary or cardiovascular systems, including asthma;

Reprinted from the *Morbidity and Mortality Weekly Report*, 6 October 2000; vol.49, no. 39. Centers for Disease Control (CDC), National Institute for Health (NIH).

4. Children and adults who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus), renal dysfunction, hemoglobinopathies, or immunosuppression (eg, caused by medications or human immunodeficiency virus);
5. Persons aged six months to 18 years who are receiving long-term aspirin therapy and therefore might be at risk for developing Reye syndrome after influenza, and
6. Women who will be in the second or third trimester of pregnancy during the influenza season.

- When influenza vaccine becomes available, vaccination efforts should be focused on persons at high risk for complications associated with influenza disease and on health-care workers who care for these persons.
- Temporary shortages because of delayed or partial shipments may require decisions on how to prioritize use of vaccine available early in the season among high-risk persons and health-care workers; such decisions are best made by those familiar with the local situation. Vaccine available early in the season should be used to maximize protection of high-risk persons. Because vaccine supplies are expected to increase substantially in November and December, plans should be made to continue vaccination of high-risk persons and health-care workers into December and later.
- Mass vaccination campaigns should be scheduled later in the season as availability of vaccine is assured. Based on projected vaccine distribution, in most areas campaigns will be scheduled in November or later. Efforts should be made to increase participation by high-risk persons and their household contacts, but other persons should not be turned away.
- Groups implementing mass vaccination efforts should seek to enhance coverage among those at greatest risk for complications of influenza and their household contacts. Strategies for targeting mass vaccination efforts at high-risk persons include 1) targeting announcements in publications and other media focused toward the elderly and those with high-risk medical conditions; 2) establishing liaisons with community groups representing the elderly and those with chronic diseases; and 3) offering vaccination to elderly relatives of persons in the workplace and employees.
- Special efforts should be made in December and later to vaccinate persons aged 50 to 64 years, including those who are not at high risk and are not household contacts of high-risk persons. Persons in this age group with high-risk conditions should be vaccinated along with other high-risk persons. However, special efforts to vaccinate healthy persons in this age group should begin in December and continue as long as vaccine is available.
- Vaccination efforts for all groups should continue into December and later as long as influenza vaccine is available. Production of influenza vaccine will continue through December, and providers should plan for how vaccine provided late in the season can be used effectively. Vaccination providers who administer all of their available influenza vaccine supply early in the season and who still have unvaccinated high-risk patients should order additional vaccine that will become available in December. To minimize wastage of influenza vaccine, providers whose initial vaccine orders are delayed or partially filled should not seek replacement vaccine from other manufacturers or distributors unless use of all vaccine doses ordered can be assured during the 2000-01 season.
- Pneumococcal vaccines are recommended by ACIP for many of the same high-risk persons for whom influenza vaccine is recommended.[6,7] Assuring pneumococcal vaccination of high-risk persons in accordance with ACIP recommendations early in the season will confer substantial protection from a major complication of influenza (pneumococcal pneumonia).
- Annual influenza vaccination provides an opportunity to review the pneumococcal vaccination status of persons for whom pneumococcal vaccination is recommended by ACIP. This season, pneumococcal vaccine should be administered when indicated even if influenza vaccine is not yet available. Providers should emphasize to patients or their caregivers that pneumococcal vaccination is not a substitute for influenza vaccination and that patients need to return for influenza vaccine when it is available.

Role of Health-Care Organizations and Health-Care Providers

ACIP encourages health-care organizations and providers to undertake special efforts to maximize influenza vaccine coverage among high-risk persons. Health-care organizations and medical providers that can identify elderly and high-risk patients from computerized administrative databases or clinical records should evaluate their capacity to send reminders directly to these patients. Reminder-recall systems have been proven effective in increasing vaccination coverage and are recommended by the Task Force on Community Preventive Services.[8] In addition, ACIP recommends use of standing orders in long-term-care facilities and other settings (eg, inpatient and outpatient facilities, managed-care organizations, assisted-living facilities, correctional facilities, adult workplaces, and home health-care agencies) to ensure the administration of recommended vaccinations for adults, including influenza vaccine.[9] Assuring that elderly and high-risk patients receive vaccine before hospital discharge throughout the influenza season will provide protection for a large number of high-risk persons.

Role of State and Local Health Departments

State and local health departments can play a critical role in promoting vaccination of high-risk persons and in promoting ongoing vaccination through December and later. Because only a small proportion of influenza vaccine is delivered by the public sector, the greatest impact may be achieved through the formation of coalitions that include community and provider organizations to promote the strategies recommended by ACIP. Key coalition partners include professional societies, Health Care Financing Administration peer review organizations that have an existing focus on influenza vaccination through the National Pneumonia Project, and community groups that focus on high-risk populations. Many states already may have an active coalition for adult vaccination that could serve as a focus for state and local efforts. Health departments also can play a key role in disseminating timely and accurate local information on influenza activity and communicating local availability of vaccine to high-risk groups and monitoring and promoting vaccination of residents of long-term-care facilities.

Update on Use of Influenza Vaccine in Children

Early vaccination of young children with high-risk conditions is a priority because two doses of vaccine administered at least one month apart are recommended for children aged <9 years who are receiving influenza vaccine for the first time. Two influenza vaccines (Flushield™, Wyeth Laboratories, Inc. [Marietta, Pennsylvania], and Fluzone® split, Aventis Pasteur, Inc.) are licensed and recommended for use in high-risk children aged ≥6 months. One other influenza vaccine, Fluvirin™ (Medeva Pharma Ltd., Leatherhead, England), is labeled in the United States for use only in persons aged ≥4 years because its efficacy in younger persons has not been demonstrated. Because Fluvirin™ is not indicated for children aged six months to three years, providers should use other approved influenza vaccines for vaccination of children in this age group.

CDC will provide information material to assist state health departments and other organizations in their communication and education efforts. This material and updates on the influenza vaccine supply will be posted on CDC's World-Wide Web site, http://www.cdc.gov/nip. Additional information and assistance can be obtained by contacting CDC's National Immunization Program by e-mail, nipinfo@cdc.gov, or the National Immunization Information Hotline, telephone (800) 232-2522.

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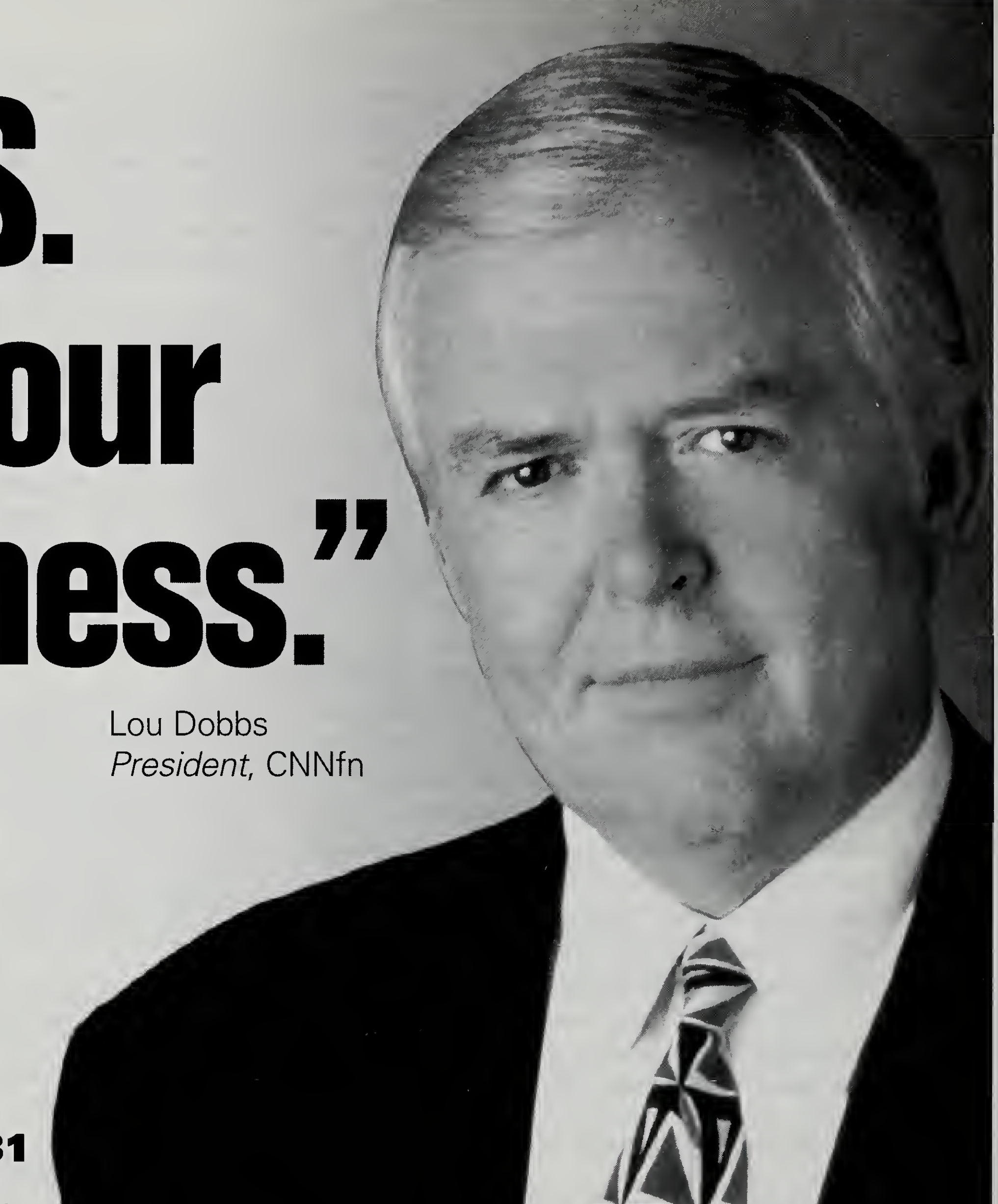

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Levels of Diabetes-Related Preventive-Care Practices—United States, 1997–1999

PERSONS with diabetes are at increased risk for serious complications (eg, blindness, kidney failure, nontraumatic lower-extremity amputations, and cardiovascular disease).[1] Preventive-care practices, such as annual dilated eye and foot examinations, self-monitoring of blood glucose, and glycemic control, are effective in reducing both the incidence and progression of diabetes-specific complications.[2–6] Despite the benefits of preventive-care practices, many persons with diabetes in the United States do not receive these services.[7] The national health objectives for 2010 include increasing the proportion of persons with diabetes who 1) have an annual dilated eye examination to 75%, 2) have an annual foot examination to 75%, 3) perform self-monitoring of their blood glucose (SMBG) at least once daily to 60%, and 4) have a glycosylated hemoglobin (HbA1Q measurement at least once a year to 50%. To measure levels of preventive-care practices, CDC analyzed data from the 1997–1999 Behavioral Risk Factor Surveillance System (BRFSS). This report summarizes the results of that analysis, which indicate that levels of preventive-care practices among persons with diabetes are lower than the national health objectives for 2010 (Fig. 1).

BRFSS is an ongoing, state-based, random-digit-dialed telephone survey of the noninstitutionalized U.S. population aged ≥18 years. BRFSS is conducted in 50 states, the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands. This analysis was restricted to respondents who answered "yes" to the question, "Has a doctor ever told you that you have diabetes?" Women who were told they had diabetes only during pregnancy were excluded from this analysis. Persons with self-reported diabetes were asked, "When was the last time you had an eye exam in which the pupils were dilated?", "About how many times in the last year has a health professional checked your feet for any sores or irritations?", "About how often do you check your blood for glucose or sugar?", and "About how many times in the last year has a doctor, nurse, or other health professional checked you for glycosylated hemoglobin or hemoglobin 'A one C'?" Only persons who reported having seen a health professional for their diabetes during the preceding year were asked if they had their feet examined, and only patients who had seen a health professional for their diabetes during the preceding year and heard of the term "glycosylated hemoglobin" or "hemoglobin A one C" were asked if they had received a HbA1C measurement. Persons who were not asked the questions were considered not to have received the services. Data were analyzed to determine the level of use of each preventive-care practice, by state, in the 40 states that had at least 2 years of data during 1997-1999. In addition, sociodemographic characteristics associated with use of each preventive-care practice were examined. Data were weighted to reflect the age, sex, and racial distribution of the adult, noninstitutionalized population of each state, and all estimates were age-adjusted to the 2000 U.S. adult population. Data were analyzed using SAS software, with SUDAAN to calculate point estimates and 95% confidence intervals.

Among adults with diabetes in the 40 states, substantial gaps exist between current levels of preventive-care practices and the 2010 targets (Figure 1). Sociodemographic characteristics associated with each preventive-care practice varied by practice (Table 1). Men were more likely than women to have their feet examined. Persons aged ≥45 years were more likely to report having a dilated eye examination, persons aged ≥75 years were less likely to perform SMBG, and persons aged <45 years were more likely to have their HbAlC measured. Non-Hispanic whites were more likely to perform SMBG than were persons from other racial/ethnic groups. Persons with at least a high school education and with health insurance were more likely to receive each of the four preventive-care practices.

Levels of preventive-care practices varied by state for each practice (Table 2). The proportion of persons who received an annual dilated eye examination ranged from 47.0 to 81.0, who received an annual foot examination ranged from 42.4 to 69.4, who selfmonitored their blood glucose ranged from 29.7 to 65.5, and who received a

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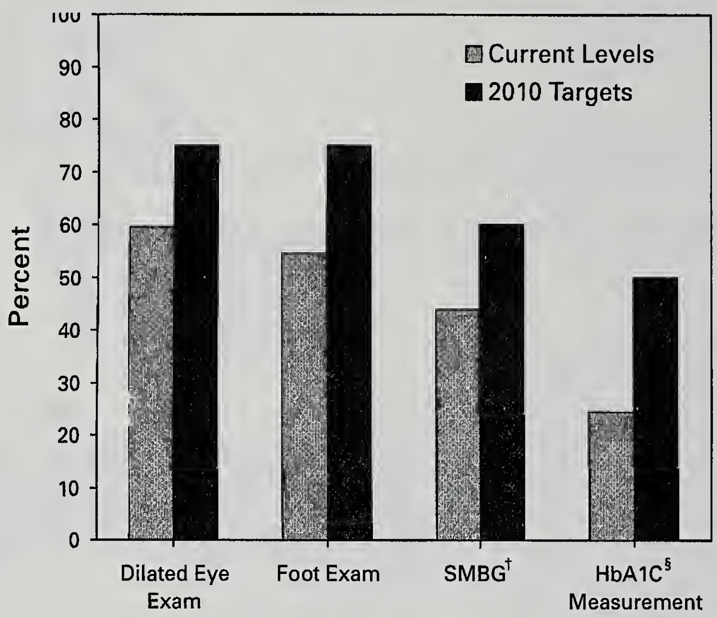
Reprinted from the *Morbidity and Mortality Weekly Report,* 6 October 2000; vol.49, no. 39, Centers for Disease Control (CDC), National Institute for Health (NIH).

Exam Measurement



***Estimates are age-adjusted to the 2000 U.S. adult population, three-year averages. Data from the following states and territories were not included in the analysis: Delaware, Illinois, Indiana, Maryland, Missouri, New York, Oklahoma, Oregon, South Carolina, South Dakota, Washington, Puerto Rico, Guam, and the U.S. Virgin Islands.**

†Self-monitoring of blood glucose.

§Glycosylated hemoglobin.

Figure 1.—Percentage of persons with diabetes who receive preventive-care practices and national health objectives for 2010 for each practice—Behavioral Risk Factor Surveillance System, United States, 1997–1999*

HbAlC measurement ranged from 16.9 to 42.4. Three states (Alaska, Maine, and Massachusetts) met the dilated eye examination target, and one state (Montana) met the selfmonitoring of blood glucose target; no state met the annual foot examination or HbAlC measurement target.

Reported by the following BRFSS coordinators: S. Reese, M.P.H., Alabama, M.B.A., P. Owen, Alaska; B. Bender, M.B.A., Arizona; G. Potts, M.B.A., Arkansas, B. Davis, Ph.D., California; M. Leff, M.S.P.H., Colorado, M. Adams, M.P.H., Connecticut, F. Breukelman, Delaware; I. Bullo, District of Columbia; S. Hoecherl, Florida; L. Martin, M.S., Georgia, F. Reyes-Salvail, MS, Hawaii, J Aydelotte, MA, Idaho; B Steiner, M.S., Illinois, L. Stemnock, Indiana; J. Igbokwe, Ph.D., Iowa; C. Hunt, M.P.H., Kansas; T. Sparks, Kentucky; B. Bates, M.S.P.H., Louisiana, D. Maines, Maine; A. Weinstein, M.A., Maryland, D. Brooks, M.P.H., Massachusetts; H. McGee, M.P.H., Michigan; N. Salem, Ph.D., Minnesota; D. Johnson, M.S., Mississippi, J. Jackson-Thompson, Ph.D., Missouri; P. Feigley, Ph.D., Montana; L. Andelt, Ph.D., Nebraska; E. DeJan, M.P.H., Nevada; L. Powers, M.A., New Hampshire; G. Boeselager M.S., New Jersey; W. Honey, M.P.H., New Mexico; C. Baker, New York; Z. Gizlice, Ph.D., North Carolina; L. Shireley, M.P.H., North Dakota; P. Pullen, Ohio; K. Baker, M.P.H., Oklahoma; K. Pickle, M.S., Oregon; L. Mann, Pennsylvania; Y. Cintron, M.P.H., Puerto Rico; J. Hesser Ph.D., Rhode Island, M. Wu, M.D., South Carolina; M. Gildemaster, South Dakota, D. Ridings, Tennessee, K. Condon, Texas, K. Marti, Utah; C. Roe, M.S., Vermont, K. Carswell, M.P.H., Virginia; K. WynkoopSimmons, Ph.D., Washington; F. King, West Virginia, K. Pearson, Wisconsin, M. Futa, M.A., Wyoming. Epidemiology and Statistics Branch Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: The findings in this report indicate low levels of preventive-care practices and a wide gap between current state levels and the 2010 targets. States with the lowest levels were approximately 30 percentage points from reaching the target. Increasing the proportion of persons with diabetes who receive each preventive-care practice could minimize diabetes-related complications and would reduce the morbidity, mortality, and costs associated with diabetes.[1] Collaborative efforts among healthcare systems, health-care providers, public health officials, members of communitybased organizations, and patients are needed to identify effective mechanisms for delivering improved quality care to persons with diabetes.

The only characteristics that were consistent across each preventive-care practice were education level and health insurance status. These findings suggest that socioeconomic status and access to health care have an effect on the receipt of diabetesrelated preventive-care practices. Further examination is needed to determine the role of sex, age, and race on receipt of preventive care. The variation by state in receipt of preventive care may, in part, result from differences in demographic distribution, physician

Table 1.—Age-adjusted proportion of persons with diabetes who received preventive care, by selected sociodemographic characteristics—Behavioral Risk Factor Surveillance System, United States, 1997-1999*

Characteristic	Dilated eye examination %	(95% CI[¶])	Foot examination %	(95% CI)	SMBQ[†] %	(95% CI)	HbA1C[§] %	(95% CI)
Sex								
Men	60.5	(± 2.8)	58.2	(± 2.8)	43.0	(± 2.8)	24.3	(± 2.5)
Women	58.1	(± 2.2)	50.8	(± 2.2)	44.2	(± 2.2)	23.8	(± 2.0)
Age group (yrs)								
18-44	53.2	(± 3.1)	51.2	(± 3.1)	44.1	(± 3.1)	28.4	(± 2.8)
45-64	62.9	(± 1.9)	59.1	(± 1.9)	44.6	(± 1.9)	21.8	(± 1.7)
65-74	72.1	(± 2.0)	57.3	(± 2.3)	43.4	(± 2.3)	15.9	(± 1.71
>75	71.2	(± 2.5)	52.6	(± 2.8)	37.2	(± 2.7)	12.5	(± 2.0)
Race/Ethnicity								
White, non-Hispanic	59.6	(± 2.1)	56.2	(± 2.1)	48.1	(± 2.1)	26.5	1.9)
Black, non-Hispanic	64.3	(± 3.9)	56.9	(± 4.1)	42.4	(± 4.1)	20.3	3.9)
Hispanic	54.1	(± 5.0)	46.8	(± 4.9)	34.8	(± 4.5)	17.6	3.9)
Asian/Pacific Islander	61.0	(±12.0)	55.1	(±12.0)	30.6	(±11.3)	36.1	(:01.7)
American Indian/ Alaska Native	56.2	(±11.8)	48.9	(±11.1)	35.7	(±10.2)	23.1	(±9.4)
Education level								
<High school	52.5	(± 4.5)	44.6	(± 4.6)	35.1	(± 4.0)	13.8	(± 3.3)
High school	60.2	(± 3.0)	54.6	(± 3.0)	43.4	(± 3.01	20.5	(± 2.4)
>High school	62.1	(± 2.4)	58.5	(± 2.4)	47.7	(± 2.5)	31.7	(± 2.4)
Health insurance								
Yes	61.9	(± 1.9)	56.5	(± 1.9)	46.6	(± 1.9)	25.6	(± 1.7)
No	48.0	(± 4.6)	42.1	(± 4.7)	31.3	(± 4.1)	17.4	(± 3.8)

*Estimates are age-adjusted to the 2000 U.S. adult population, three-year averages. Data from the following states and territories were not included in the analysis: Delaware, Illinois, Indiana, Maryland, Missouri, New York, Oklahoma, Oregon, South Carolina, South Dakota, Washington, Puerto Rico, Guam, and the U.S. Virgin Islands.

[†] Self-monitoring of blood glucose.

[§] Glycosylated hemoglobin.

[¶] Confidence interval.

practice patterns, health-care system characteristics, and patient attitudes.

The findings in this analysis are subject to at least two limitations. First, persons who live in nursing homes and in households without telephones are not included in this survey; therefore, these results cannot be generalized to these segments of the population. Second, because the data were self reported, they are subject to recall bias and may be underreported or overreported.

CDC, in collaboration with 59 state and territorial diabetes control programs, provides leadership for a coordinated, multifaceted approach to increasing awareness and education about diabetes, improving the quality of diabetes care, promoting early detection of diabetic complications, and monitoring trends in the quality of care received by persons with diabetes. CDC and the National Institutes of Health will cosponsor the National Diabetes Education Program, which develops educational tools and community-based interventions and establishes public and private partnerships to address the needs of persons with diabetes and raise general awareness about the disease. CDC also supports Diabetes Today, a program that provides health professionals and community leaders with the skills needed to mobilize communities and improve diabetes care. CDC also is working with managed-care partners to determine how to improve care for persons with diabetes. Project TRIAD (Translating Research into Action for Diabetes) is a multicenter study that includes several managed-care organizations. Information on these prevention programs is available on the World-Wide Web at http://www.cdc.gov/diabetes/ projects/index.htm.

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Table 2.—Age-adjusted proportion of persons with diabetes who received preventive care, by state—Behavioral Risk Factor Surveillance System, United States, 1997–1999*

	Dilated eye examination		Foot examination		SMBQ[†]		HbA1C[§]	
State	**%**	**(95% CI[¶])**	**%**	**(95% CI)**	**%**	**(95% CI)**	**%**	**(95% CI)**
Alabama	53.6	(± 8.0)	42.4	(± 7.6)	41.0	(± 8.0)	16.9	(± 5.7)
Alaska	76.8	(± 8.0)	59.9	(±11.3)	49.5	(±11.1)	37.7	(±11.6)
Arizona	60.5	(±12.5)	45.3	(±11.0)	42.2	(±10.9)	20.8	(± 9.0)
Arkansas	47.0	(± 7.4)	49.0	(± 8.5)	38.4	(± 8.7)	21.0	(± 8.6)
California	58.2	(± 5.7)	51.1	(± 5.7)	37.2	(± 5.2)	29.0	(± 5.2)
Colorado	56.0	(±10.2)	59.6	(±10.0)	49.8	(±10.6)	40.8	(± 9.8)
Connecticut	72.5	(± 8.8)	65.2	(± 8.6)	58.5	(± 9.4)	31.3	(± 9.7)
District of Columbia	68.1	(±12.8)	57.9	(±13.6)	33.5	(±11.2)	20.7	(±12.4)
Florida	53.5	(± 6.1)	51.7	(± 6.2)	48.1	(± 6. 1)	18.8	(± 4.9)
Georgia	57.6	(± 9.0)	52.6	(± 9.1)	41.4	(± 8.8)	18.3	(± 6.9)
Hawaii	70.2	(±10.3)	61.8	(±10.1)	29.7	(± 9.9)	25.5	(±10.6)
Idaho	59.6	(± 8.5)	51.4	(± 8.5)	52.7	(± 8.6)	27.8	(± 8.1)
Iowa	63.8	(± 7.4)	55.0	(± 7.7)	45.2	(± 7.6)	26.2	(± 6.8)
Kansas	57.4	(±10.3)	49.8	(±10.6)	393	(±10.0)	17.1	(± 7.0)
Kentucky	58.6	(± 6.0)	60.1	(± 5.6)	45.7	(± 6.0)	24.1	(± 5.6)
Louisiana	66.9	(± 9.2)	52.7	(±11.1)	41.2	(±10.8)	22.0	(± 9.2)
Maine	76.0	(± 8.9)	69.4	(±10.2)	47.9	(±11.0)	42.4	(±11.0)
Massachusetts	81.0	(± 5.0)	65.4	(± 8.0)	51.8	(± 8.8)	27.9	(± 7.6)
Michigan	58.0	(± 7.0)	45.8	(± 7.2)	36.3	(± 7.0)	22.1	(± 5.9)
Minnesota	61.8	(± 5.9)	58.0	(±5.9)	58.3	(± 5.9)	31.6	(± 5.4)
Mississippi	52.5	(± 9.9)	52.9	(±10.2)	34.1	(± 9.1)	18.1	(± 7.8)
Montana	66.4	(±10.2)	63.3	(±10.1)	65.5	(± 9.4)	39.9	(±10.0)
Nebraska	55.9	(± 8.4)	58.4	(± 8.3)	55.1	(± 8.2)	38.2	(± 8.3)
Nevada	63.5	(±10.9)	51.8	(±11.2)	35.8	(±10.3)	20.8	(± 8.3)
NewHampshire	60.5	(±12.1)	53.6	(±12.1)	47.2	(±12.3)	31.1	(±11.4)
New,lersey	63.6	(± 9.1)	58.6	(± 9.1)	47.5	(± 9.1)	25.6	(± 8.3)
New Mexico	62.3	(± 7.1)	59.3	(± 7.0)	45.2	(± 7.1)	25.1	(± 6.3)
North Carolina	67.3	(± 6.8)	54.6	(± 7.0)	42.9	(± 6.9)	23.8	(± 6.2)
North Dakota	71.5	(±10.8[¶])	67.8	(±10.6)	53.7	(±10.9)	35.7	(±11.2)
Ohio	61.7	(± 9.2)	62.1	(± 9.2)	49.2	(± 9.5)	21.7	(± 8.7)
Pennsylvania	62.4	(± 6.3)	58.3	(± 6.3)	46.6	(± 6.4)	27.8	(± 6.1)
Rhodelsland	68.4	(± 7.9)	58.7	(± 8.0)	45.4	(± 8.0)	30.2	(± 7.9)
Tennessee	51.7	(± 7.0)	53.2	(± 7.2)	57.4	(± 7.0)	17.2	(± 5.6)
Texas	55.3	(± 5.9)	53.1	(± 5.8)	41.7	(± 5.6)	17.9	(± 4.2)
Utah	63.9	(± 8.6)	65.4	(± 8.1)	54.3	(± 8.7)	31.4	(± 8.7)
Vermont	71.9	(± 9.2)	50.8	(±11.5)	36.2	(± 9.4)	35.8	(±13.1)
Virginia	64.2	(± 8.2)	59.3	(± 7.3)	46.5	(± 9.0)	24.2	(±11.1)
West Virginia	55.0	(± 8.4)	63.7	(± 7.8)	50.5	(± 8.3)	24.1	(± 7.7)
Wisconsin	64.6	(±11.2)	62.9	(±10.4)	55.3	(±10.4)	27.7	(± 9.9)
Wyoming	56.5	(± 8.8)	48.0	(± 8.7)	50.8	(± 8.8)	30.2	(± 8.4)

*Estimates are age-adjusted to the 2000 U.S. adult population, three-year averages. Data from the following states and territories were not included in the analysis: Delaware, Illinois, Indiana, Maryland, Missouri, New York, Oklahoma, Oregon, South Carolina, South Dakota, Washington, Puerto Rico, Guam, and the U.S. Virgin Islands.

†Self-monitoring of blood glucose.

§Glycosylated hemoglobin.

¶Confidence interval.

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THE MEDICAL LETTER

Problems with Influenza Vaccine

PRODUCTION problems in some plants have delayed the availability of this year's influenza vaccine and may limit the total supply. These problems appear to be confined to the U.S.A.; no shortage is anticipated in Canada. Antigens in the current vaccine are A/New Caledonia/20/99-like (HlNl), A/Panama/2007/99-like (H3N2), which is antigenically equivalent to A/Moscow/10/99, and B/Yamanashi/166/98-like, which is antigenically similar to B/Beijing/184/93. Only the B antigen was in last year's vaccine (*MMWR*, 49:619, July 14, 2000).

INDICATIONS—The U.S. Public Health Service now recommends influenza vaccine for all persons more than 50 years old. Because the supply of this year's vaccine is uncertain, initial vaccination programs should focus on elderly patients and those with chronic diseases, their household contacts, and health care personnel.

DOSAGE—The optimal time for vaccination in the U.S.A. is from October through mid-November, but any time from September to the end of the influenza season is appropriate. A single intramuscular 0.5-ml dose of the vaccine is recommended for adults and children at least three years old, and 0.25 ml for children six to 35 months old. Children less than nine years old receiving influenza vaccine for the first time should receive two doses at least four weeks apart.

ADVERSE EFFECTS—Except for soreness at the injection site, adverse reactions to influenza vaccine are uncommon. Fever, myalgia, and malaise can occur. Split-virus and purified-surface-antigen formulations are less likely to cause febrile reactions and should be used in children less than 13 years old. Hypersensitivity reactions occur infrequently. Whether influenza vaccine rarely causes Guillian Barré syndrome is controversial.

INFLUENZA VACCINES

	Preparation	Form[1]	Price[2]
*_Fluogen_ (Monarch)	split virus	vial	$ 58.68
		10 syringes	82.43
*_FluShield_ (Wyeth-Ayerst)	split virus	vial	53.21
		10 syringes	*80.73*
Fluvirin (Medeva)[3]	purified surface antigen	vial	46.99
		10 syringes	52.95
*_Fluzone_ (Aventis Pasteur)	whole viruS[4]	vial	51.79
	split virus	vial	51.79
		10 syringes	70.54

Not currently available.
1. Each vial contains 5 ml (10 doses); syringes are sold in boxes of 10, each containing one 0.5-ml dose.
2. Wholesale price, according to *Drug Topics Red Book Update*, August 2000 or the manufacturer.
3. Not recommended for use in children less than 4 years old.
4. Not recommended for use in children less than 13 years old.

CONCLUSION—Until an adequate supply of influenza vaccine is available, immunization of elderly and high-risk patients and their contacts, including health care workers, should be given priority. Other patients can be immunized later in the season.

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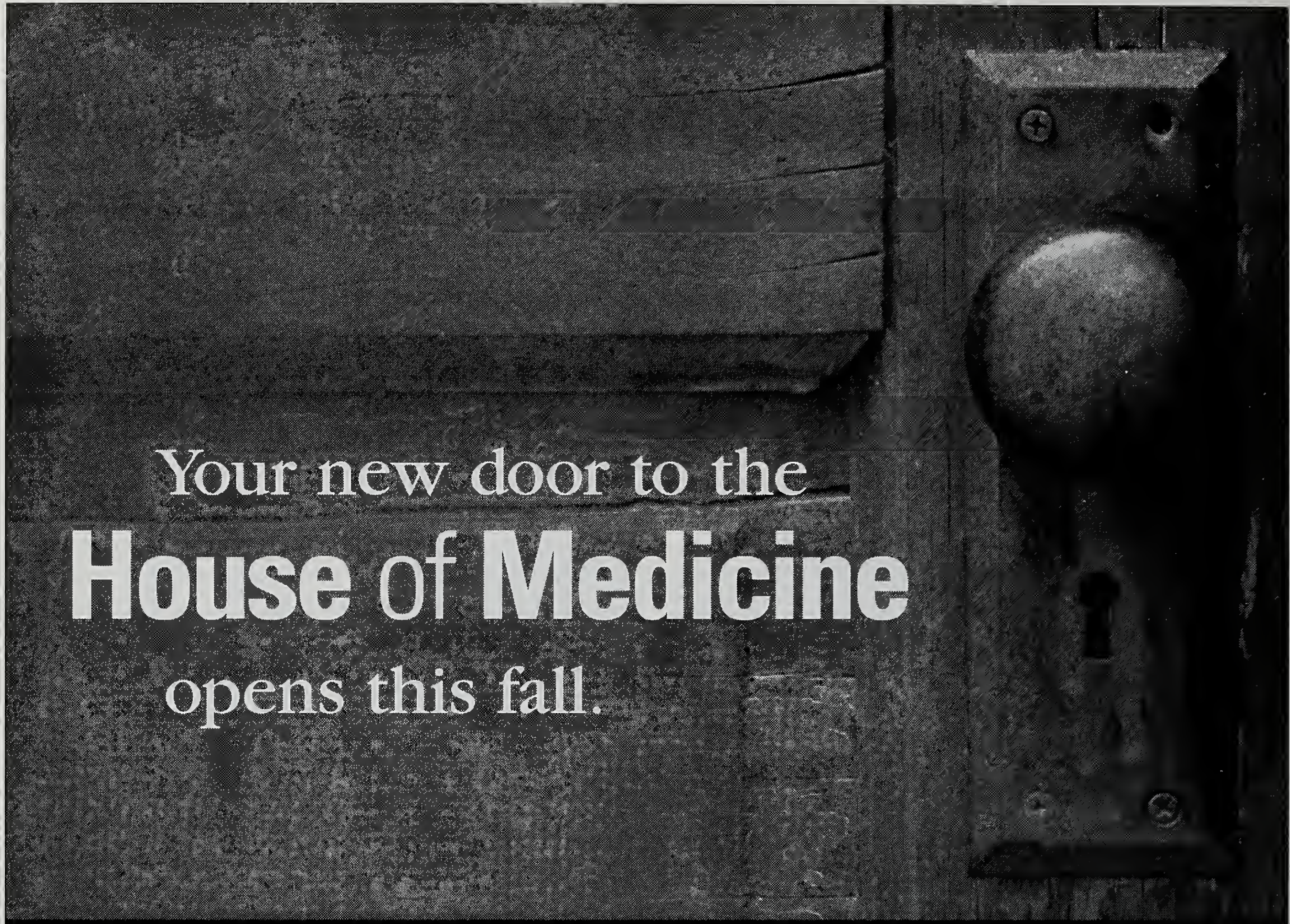

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Rivastigmine (*Exelon*) for Alzheimer's Disease

RIVASTIGMINE tartrate *(Exelon*—Novartis), a carbamate-based cholinesterase inhibitor, is now being marketed for treatment of patients with dementia due to Alzheimer's disease. Rivastigmine is the third acetylcholinesterase inhibitor approved by the FDA for this indication; tacrine hydrochloride (*Cognex*) and donepezil hydrochloride (*Aricept*) are also available (*Medical Letter* 1997; 39:53).

MECHANISM OF ACTION—Cognitive deficits in Alzheimer's disease have been associated with a decline in acetylcholine activity in the brain CJ Lemiére et al, *Acta Neurol Belg* 1999; 99:96). Rivastigmine, a noncompetitive cholinesterase inhibitor with good penetration into the central nervous system, increases cholinergic transmission.

PHARMACOKINETICS—Rivastigmine is rapidly absorbed from the gastrointestinal tract, reaching peak plasma concentrations in one hour. Food delays its absorption. The drug is metabolized mainly through hydrolysis by esterases to a decarbamylated metabolite, which is excreted in urine. Cytochrome P450 isozymes have only a minimal role in the drug's metabolism. The duration of cholinesterase inhibition in the central nervous system after a single dose is about 10 hours.

DRUG INTERACTIONS—Since rivastigmine is not metabolized by major CYP450 isozymes, it is not expected to have pharmacokinetic interactions with drugs that induce, inhibit or are metabolized by those isozymes. In human volunteers, rivastigmine did not interact with digoxin (*Lanoxin*, and others), warfarin *(Coumadin,* and others), diazepam *(Valium,* and others), or fluoxetine (*Prozac*). In one clinical study, it did not interact with commonly used drugs such as antacids, antihypertensives or analgesics (GT Grossberg et al, *Int J Geriatr Psychiatry* 2000; 15:242).

CLINICAL TRIALS—Two randomized 26-week trials in a total of 1,424 patients with Alzheimer's disease found that rivastigmine six to 12 mg/day improved scores on neuropsychological tests and measures of behavior and functioning in about 25% to 30% of patients. The improvements were modest, but statistically significantly better than those with placebo. Scores with lower doses were similar to those with placebo (J Corey-Bloom et al, *Int J Geriatr Psychopharmacol* 1998; 1:55; M Rösler et al, *BMJ* 1999; 318:633). In an open-label extension, scores remained high for about 40 weeks before declining, according to data from the manufacturer (*J Clin Psychiatry* 2000; 61:310). No trials are available comparing rivastigmine to donepezil or tacrine.

ADVERSE EFFECTS—About 20% of patients were unable to tolerate six to 12 mg/day of rivastigmine because of adverse effects. In clinical trials, nausea, vomiting, diarrhea, abdominal pain and anorexia were the most common adverse effects, sometimes apparently related to rapid titration to an effective dose. Weight loss occurred in some patients. The hepatic toxicity that has limited the use of tacrine has not been reported with rivastigmine.

DOSAGE AND COST—*Exelon is* available in 1.5-, 3-, 4.5- and 6-mg capsules. The initial dosage is 1.5 mg twice a day, which can be increased to 3, 4.5, and finally 6 mg twice a day with a minimum of two weeks between increases. The drug should be taken with food. A thirty-day supply of rivastigmine capsules of any size costs $130.36, exactly the same price as donepezil (5 or 10 mg/day), compared to $152.75 for tacrine (10, 20, 30, or 40 mg q.i.d.), according to AWP listings in *Drug Topics Red Book Update,* September 2000.

CONCLUSION—Rivastigmine produces transient stabilization or improvement in measures of cognition and functioning in some patients with mild to moderate Alzheimer's disease. Nausea, vomiting, and weight loss may be troublesome. As with tacrine and donepezil, there is no convincing evidence that rivastigmine markedly improves quality of life in patients with Alzheimer's disease or substantially alters progression of the disease.

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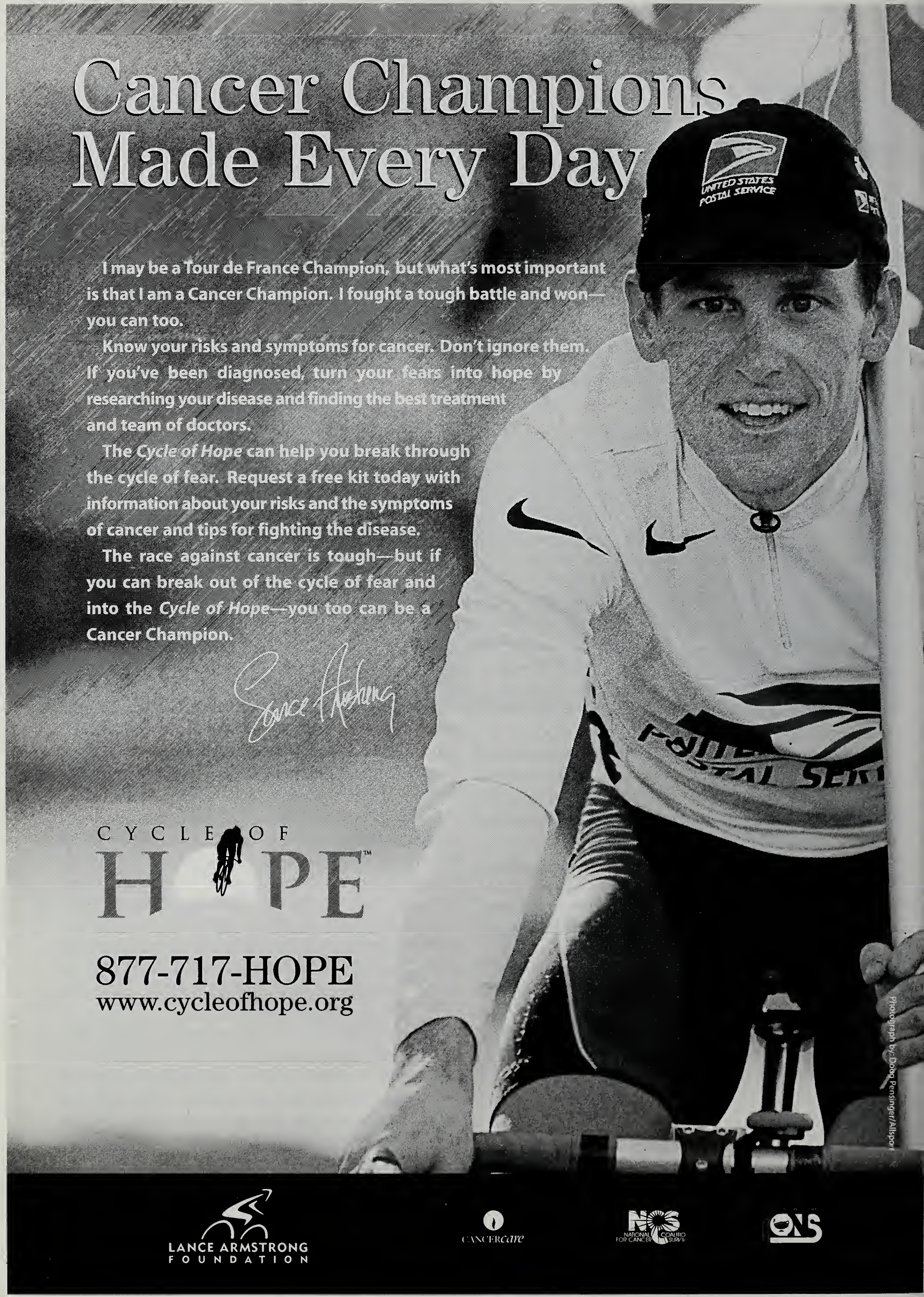
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Hospital-Based Smoking Cessation Programs: A Statewide Survey

ANTHONY P. POLEDNAK, PH.D

ABSTRACT—Hospitalization is regarded as a "window of opportunuty" for initiating smoking-cessation programs, but the proportion of hospitalized smokers reached by such programs is uncertain. While 25 of 31 Connecticut acute-care hospitals surveyed (March–April 2000) had a smoking cessation program, only three had a program specifically for hospital patients. Each of these three programs counseled several hundred patients per year. Programs at the other hospitals included few hospital patients. Only a small proportion of the estimated hospitalized (inpatient) smokers were reached by a hospital-based cessation program. Hospitalized smokers remain largely a missed opportunity with regard to enhancing long-term smoking cessation rates.

Introduction

SOME hospital-based smoking cessation programs serve entire communities, but poor reimbursement for preventive services is a problem; costs of programs are sometimes covered by hospitals as part of their community service role.[1] With the Joint Commission on the Accreditation of Healthcare Organization's policy (starting in 1995) prohibiting smoking among hospital patients, growing numbers of smokers are abstaining during their hospital stay.[2] Hospitalization is regarded as providing a "window of opportunity" for initiating smoking cessation interventions that can increase long-term abstinence rates.[1,2] An estimated 6.5 million U.S. adult smokers could be reached annually by inpatient cessation programs.[2]

The present study examined the frequency and characteristics of smoking-cessation programs for adult patients at all acute-care hospitals (with inpatient facilities) in an entire state (Connecticut).

Methods and Materials

A telephone survey was conducted (in March–April 2000) of all acute-care hospitals (with inpatient beds) in the state, excluding a children's medical center. Veterans' hospitals with inpatient facilities were included. One hospital had recently merged with another and smoking cessation programs were conducted by the same person at both hospitals (counted as one hospital). A total of 31 hospitals were contacted by telephone and asked if they were conducting a smoking-cessation program or had one scheduled.

For all hospitals with a smoking-cessation program, the survey (conducted by a single interviewer) asked the following: the name of the program (eg, Smoke Stoppers) or if it was a special program developed by the hospital; if there was any external funding for the program; and the number of sessions in the program and number of times it was run each year; the fee (if any) for the program; the average number of enrollees per program and/or per year and whether or not current or former patients at the hospital were included (and if so, how many patients per program and/or per year were enrolled).

Characteristics of hospitals with and without a smoking cessation program were compared, using information from the American Hospital Association (AHA) Guide to the Health Care Field (1999–2000 Edition).[3] Characteristics examined included number of beds for inpatients and total inpatient admissions (excluding newborns, in a 12-

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ANTHONY P. POLEDNAK, PH.D. Connecticut Department of Public Health, Hartford.

month period ending 30 September 1998), and teaching status (ie, membership in the Council of Teaching Hospitals of the Association of American Medical Colleges).[3]

Results

Of the 31 hospitals contacted by telephone, 25 had a smoking-cessation program currently operating or scheduled. Of these 25 hospitals, telephone interviews with the program director were conducted for 22. For the other three, only the answering machine of the program director was reached and no return call was obtained but a postal version of the survey was returned by all three. The response rate, therefore, was 100%.

The six hospitals without a program included five smaller hospitals and one teaching hospital (*vs* 10 of the 25 hospitals with a program) (Table 1). Of these six hospitals one conducted only research studies on smoking (limited to pregnant and postmenopausal women), another referred callers to the local American Lung Association (ALA) program, one had used an ALA program (once a year) in the past but had no program scheduled, two had tentative plans for a program (using ALA), and the other mentioned the possibility of some kind of future program.

Only three hospitals had a program specifically for hospitalized patients and all three used individually-tailored interventions (Table 2). Two of these three hospitals were among the largest in the state and the programs were funded solely by the hospital while the third (smaller) hospital had a grant from the State Attorney General's (AG's) Office. Each hospital counseled more than 300 patients per year (Table 2). One hospital's inpatient program included about 350 patients per year but it also ran a community program that included about 20 former patients (out of 100 total enrollees) per year. Thus, the estimated total number of patients was 370 per year. All three hospitals attempted to identify all patients who smoked and conducted a free bedside program. One provided information about a relapse prevention group and follow-up counseling and another provided a list of local resources (including an ALA Program). The third hospital included both inpatients and outpatients.

A total of 23 hospitals had a community-wide program(s). Almost all programs included only adults but a few enrolled teens (under 18 years, numbers not included in Table 2). None or few of the enrollees were stated to be (current or former) hospital patients. One hospital reported no actual enrollees during the past two years. Three respondents could not provide an estimated number of enrollees but numbers of persons per session were small (ie, four to 12) and programs ran at irregular intervals; thus, numbers of individuals involved per year were probably small. Most programs were funded by the hospital and/or program fees ($0 to $175 per program) but a few had external funding (ie, U.S. Centers for Disease Control and Prevention, State AG's Office, and National Emphysema Foundation). Special programs, tailored to individuals or groups (often with a stress-reduction component), were most common, along with Smoke Stoppers (a commercial program for hospitals, from the National Center for Health Promotion, Ann Arbor MI),[4] Freedom from Smoking (an American Lung Association program), and other specific programs (Table 2).

Table 1.—Connecticut Acute-Care Hospitals with and Without a Smoking Cessation Program(s): Comparison of Characteristics

	With Program (N=25)		Without Program (N=6)	
Hospital Characteristics[†,§]	**N**	**%**	**N**	**%**
Inpatient beds:				
<100	4	16	4	67*
100-199	6	24	2	34
200-499	11	44	0	0
500-822	4	16	0	0
Inpatient admissions/yr:				
2,000–3,999	3	12	2	34
4,000–9,999	8	32	4	67
10,000–19,999	9	36	0	0
20,000–35,269	4	16	0	0
Teaching hospital	10	40	1	17

†From an American Hospital Association report;[3] only the number of staffed inpatient beds and teaching status were available for one hospital in this table. The total number of inpatient admissions (12-month period ending 30 September 1998) was 332,020.

§See text for definitions of characteristics.[3]

Note: Data for two hospitals that merged were combined (see text). *$P<.05$ (Fisher's exact test, two-tailed).

Discussion

The findings suggest that the smallest hospitals lacked the financial resources (and/or potential enrollment fees) to pay for smoking-cessation programs, unless external funding was available. Of the estimated 550,000 smokers in Connecticut,[5] only a small fraction are reached by hospital-based programs (Table 2). Program fees for most community-wide programs (while needed to finance the programs) could be a barrier for some potential enrollees (including former hospital patients). The Connecticut legislature has considered a bill that would authorize Medicaid funding for smoking-cessation efforts but (as of this writing) no state funds have been allocated. Furthermore, Medicaid does not cover all low-income persons.

Table 2.—Connecticut Acute-Care Hospitals with a Smoking Cessation Program(s) (N=25): Program Characteristics

Type of Program/ Characteristic	No. of hospitals	% of hospitals
Hospital patients only (three hospitals)		
Fee: Free	3	100
Program type: Special	3	100
Number counseled/year:		
370	1	33
500–750	2	67
(Total enrollees: 1,620)		
General Community (23 Hospitals)†		
Fee for program:		
Free	5	22
$25–99	10	44
$100–149	6	26
$150–175	2	9
Program type:		
Special	10	43
Smoke Stoppers	7	30
Freedom from Smoking	3	13
Quit Smart	2	9
Fresh Start	1	4
Number enrolled/yr.:		
0	1	4
10–20	3	13
21–99	13	57
100–400	3	13
Uncertain§	3	13
(Total enrollees: 1,550)		

†Includes one hospital with both a program for the general community and a separate program restricted to patients.
§See text.

Athough three hospitals counseled an estimated total of 1,620 patients per year, few additional patients were included in the community-wide hospital-based programs. Using 332,000 annual inpatient admissions (excluding newborns) to acute-care hospitals (Table 1)[3] and a statewide prevalence (age 18+ years) of 22% for current smokers (from a statewide survey)[5] yields an estimate of (as many as) 73,000 smokers hospitalized as inpatients annually. Although this number includes multiple admissions for some patients and small numbers of patients too young to have started smoking, it is clear that only a small proportion of smokers are counseled at hospitals (Table 2). Inclusion of outpatients would result in larger numbers of smokers seen at acute-care hospitals. After discharge from hospital, smokers can enroll in other smoking-cessation programs, but only a minority report having received counseling from a health-care professional during the past 12 months.[6]

In conclusion, hospitalization of smokers represents largely a missed opportunity for initiating smoking-cessation interventions to enhance long-term quit rates. Many smokers may be receptive to effective interventions that include multiple follow-up contacts after hospitalization.[2,7–9] Future surveys should attempt to estimate numbers of hospitalized smokers classified by "readiness to change" or "stages of change" (including "precontemplation" smokers not thinking about quitting).[10]

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Prayer for a Friend

ANDRÉ N. SOFAIR, M.D.

AS physicians, we are often confronted with clinical dilemmas that may initially appear to be insoluble. Early in my career as a physician, the process of caring for one particular patient taught me that my perception of helplessness in the face of a clinical situation always needs to be re-examined. The story that follows is true; only the patient's name has been changed.

Some years ago, in the middle of the afternoon, my secretary told me that the police needed to speak with me about Sara. Why, I wondered, would she be involved with the law? She had been found dead on her kitchen floor, a cup of coffee still warm on the table over her head. Saddened but not surprised, I recounted her medical history to the police officer and, at the same time, reminisced about a time that Sara and I had shared.

Trained as an internist in an urban, tertiary care referral hospital, I completed a chief residency and then went to serve as a general internist to a town of 10,000 in the White Mountains of northern New Hampshire. Early in the course of my work, I met Sara.

One midnight hour brought with it the anticipated end of another stretch of call. The floors quiet, the paperwork completed, and the ambulance bay empty, I took my customary stroll through the emergency room on my way out to the car. There, in room two, was Sara.

I had first met her three weeks earlier, when I had admitted her for a myocardial infarction. Although she was only 45-years-old, she had acquired just about every cardiac risk factor: smoking, hypertension, obesity, diabetes, and hypercholesterolemia. Her hospital stay was uneventful but full; intensive care unit stay, telemetry, echocardiography, blood draws, and stress testing. She remained jovial and optimistic, saying "you can't kill off a tough 'Frenchman' like me." Although initially shaken by her aggressive manner, I later came to appreciate her straightforward persona, realizing that her communication was to the point and accurate.

She was now back in the emergency room, diaphoretic and pale, lying on the stretcher and complaining of chest pain. My spirit sank. As during the first admission, the symptoms of ischemia were classic though her ECG was unimpressive. Having learned to trust Sara's impressions, I began to treat her for myocardial ischemia. After having exhausted the armamentarium of morphine, aspirin, heparin, and IV nitroglycerin, her symptoms were unchanged. A repeat ECG now showed more classic signs of inferior ischemia. So, three hours into her pain syndrome, I gave the first bolus of thrombolytics and accompanied Sara upstairs to our four-bed ICU.

Two hours into the ICU stay and prior to the completion of thrombolytic therapy, I was called to see Sara. She was doing poorly, appearing ashen and diaphoretic. Her pain was worse and she asked what I could do to help her. A new ECG showed ominous 6 mm ST elevations inferolaterally with associated anterior ST depressions.

There I was, four months out of my residency, the only internist in the hospital and no cardiac catheterization suite for one hundred miles. Sara was lying in front of me with a pulse of 50, a systolic blood pressure of 70, and her lungs filling with fluid. I asked the nurse to prepare a bag of dobutamine and I contemplated my next move, feeling powerless, like a chess player in checkmate. Sara was spiraling into ischemic cardiogenic shock and I believed that if she arrested, she would die.

I felt the need to find a quiet place in the unit in order to sit and think of any available options. One thought that struck me was the apparent impact of time and place on clinical outcome. Having trained at a metropolitan hospital, I knew that if Sara were in a state-of-the-art ICU, she would have had a balloon pump inserted and be off to the catheterization suite or the operating room to be saved by a mechanical intervention.

As I faced my limitations, I was strangely comforted by an urge to pray to God for divine intervention. Although not a religious man at the time and not usually a man of prayer, at this moment it was the necessary thing to do. In the minutes I spent in silence, I felt compelled to sit with

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ANDRÉ N. SOFAIR, M.D., Clinical Assistant Professor of Medicine, Yale University School of Medicine, New Haven, Clinical Assistant Professor of Medicine, Waterbury Hospital, Waterbury.

my patient, explain the predicament we were in, and ask her to pray with me.

So, I entered her room, drew the curtains closed, and sat on her bed, holding her hand. I told her how critically ill she was and that I had done all that I could for her; that the rest was out of my control. I told her that I thought that we should pray for God's help. She reached out, held both of my hands, and we bowed our heads in silent prayer. After about five minutes, we opened our eyes and I felt calmer. Immediately, I noticed that Sara's face had more color and when I asked her how she felt, she told me that her pain was lessening. Wondering if her subjective improvement was real, I obtained another ECG and found her changes to have improved dramatically. In addition, her pulse and blood pressure normalized. I was relieved by the change of events but still decided to spend the night at the hospital. To my amazement, she made it through the night without any additional medical therapy and went by ambulance to another facility for cardiac catheterization and eventual bypass surgery.

She recovered nicely from her bypass and was able to resume living as she had before which included smoking and a terrible diet. Two weeks before her death, I repeated to her my belief that she would die soon if she would not change her ways. She would laugh in her usual way, pat me on the back, and tell me that she would be around to "haunt me for a long time."

Thoughts of Sara still come to me as I visit a critically ill patient and I remember the miracle that we shared in the intensive care unit. I believe that God answered our prayers that night, showing me that He intervenes in our lives in concrete ways. The gift of prayer, as much a help to the patient as to the physician, remains an essential part of my pharmacopoeia.

100 Years Ago

From the Proceedings of the Connecticut State Medical Society

1900

An Unusual Case of Post-Partum Hemorrhage

Paul Plummer, M.D., Collinsville

I was called June 4, 1899, about 3 A. M., to attend Mrs. H. F., twenty-nine years old, in her third confinement. She at that time had been in labor fifteen hours, pains being light and non-progressive.

Her first labor had been instrumental and was followed by a severe hemorrhage which nearly cost her life, and from which she was months in recovering. The second labor was normal. The pains she was then having were of the' nagging, painful but non-progressive variety. To remedy this I gave her a combination of strychnia arseniate, gr. 1–60, digitalin, gr. 1–35 and amorphous heyoscyamine, gr. 1–125, a combination that has given me many happy results, allaying the pain, strengthening the contractions and decreasing the tendency to hemorrhage.

I remained with her till 3 P. M., when no progress being made and the patient being in danger of exhaustion and hence hemorrhage, I advised instrumental delivery and sent for Dr. Ida R. Gridley-Case to give chloroform. Examination at this time showed the cervix dilated to a little larger than a dime, the membranes unruptured, and head in the L. O. A. position. The anesthetic was begun about 4 P. M. The cervix was dilated by the method of Dr. P. A. Harris, described in the January, 1894 number of the American Journal of Obstetrics, forceps were applied and a living child was delivered at 4:35 P. M. She bore the anesthetic, chloroform, nicely and came out from under its influence rapidly.

I immediately removed the placenta and gave an intrauterine injection of hot water and directed Dr. Case to give a hypodermic of 1–4 of ergotin, which she did. In a few minutes we noticed a general cyanotic condition of her whole body. The pulse became feeble and rapid, one hundred and over, the extremities were cold and the face purple.

She vomited three times and complained bitterly of cramps and pains in her limbs and a peculiar sensation in her head. Hypodermic injections of morphine, gr. 1–4, atroyine, gr. 1–150, and nitroglycerine, gr. 1–100 were given with stimulants, hot water bottles were packed around her and she gradually rallied from this condition, her color became good and she dropped into a quiet sleep.

About 6:15 P. M., 1 1/2 hours after delivery, she suddenly awoke and said she was flowing. On examination we found the blood pouring from the vulva like water from a pump. I at once introduced my right hand into the vagina and applied my left hand to the fundus to exert bimanual compression while Dr. Case compressed the abdominal aorta.

I wiped out the uterus with gauze soaked in vinegar and alum. This did no good. I then applied ice to the fundus externally and introduced a piece into the uterus itself. This did no good. I then introduced my whole hand into the uterus to remove clots; but there were none to remove. I also tried to stimulate the womb to contract by vigorous friction with one hand externally and the other internally, but it did about as much good as rubbing the bed-post. The child had been carried to a distant part of the house, or we would have applied it to the breast.

All this time the blood would gush at every move I made, and in spite of any pressure I could make I could feel it escaping internally. An intra-uterine douche of vinegar and hot water was spoken of, but there was no time for it, and we decided that firm tamponing to the fundus offered the best chance of saving her life. This we could not do in the regulation way with speculum, tenacula, and forceps; but I packed the uterus with gauze bandages, using two

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Reprinted from the *Proceedings of the Connecticut State Medical Society*, 1900.

fingers of my right hand as a guide inserted in the cervix and sliding the gauze by a small blunt instrument along the palm of my hand and gradually filling the womb. It was slow work, but the most available under the circumstances. While one of the bystanders exerted pressure on the abdominal aorta and fundus Dr. Case gave normal salt solution subcutaneously. We could not work rapidly, and the patient hindered our attempts to help her by being very refractory, so that in spite of our best efforts she kept losing blood until her pulse became one hundred and fifty and for a few minutes was imperceptible at the wrist. Fortunately by this time, 9 P. M., we had firmly packed both the uterus and vagina and active hemorrhage had ceased. I had already been giving her during this time, strychnia, digitalin and ergotin in small broken and frequent doses, and now we added brandy and aromatic spirits of ammonia and continued the normal salt solution with bovinine subcutaneously. At this time all had been done that we could do and we were both exhausted and Dr. William H. Crowley was summoned, that we might have a little rest and the patient proper attention while we rested. He thought it might be wise to remove the tampon and give an intra-uterine douche; but in this we did not concur. He suggested the use of oil of erigeron, which we tried. At his suggestion we gave a rectal injection of normal salt solution of about two quarts to which we added bovinine. At this time, 10 P. M., her pulse was one hundred and thirty. We rested until 11:30 P. M., when the other physician returned to his home. At 12 Dr. Case catheterized the patient, and withdrew four ounces of urine consisting principally of disintegrated blood. I then recalled the fact that the waters were distinctly bloody, and Dr. Case remembered that the baby had vomited a material presenting the same appearance. We also recollected that in all the blood lost there was no trace of a clot. We then decided that an abnormal blood condition was present, due probably to the retention in the system of urinary products. The patient gave a history for the month previous, of slight edema and deficient excretion of urine.

The patient suffered greatly from thirst and was allowed frequent small drinks of water, milk and bovinine, both hot and cold. At 4 A. M. more normal salt solution was given by the rectum, but was not well retained. Later in the day we gave frequent drinks of a weak solution of dilute sulphuric acid, which the patient seemed especially to enjoy. Slight oozing in spite of the firm tampon still continued; still at 5 A. M. her pulse had become much fuller and stronger, and was only a little above one hundred and her color was good considering the amount of blood lost.

There had been considerable oozing during the night and as we were far from sure of the aseptic condition of the packing we decided to remove the tampon and if necessary repack. As we were both still pretty tired we called Dr. John L. North of Avon, to our assistance. He removed the tampon about 10 A. M., June 5, and gave an intra-uterine douche of creolin solution, introduced a Micajah's uterine tablet to the fundus and as there was then some little bleeding, repacked thoroughly with iodoform gauze, with instruments and the patient in Sim's position. Repacking he found a difficult matter, on account of the strongly anteverted condition of the uterus, and its very spongy texture, the cervix being very friable and tearing upon the slightest tension. About four ounces of urine were then withdrawn, at first coming clear, then followed by disintegrated blood. On examining this urine it was found to be 1026 in sp. gr., reaction alkaline, and loaded with albumin.

We allowed the packing to remain about thirty-six hours. When it was withdrawn, Wednesday, June 7, there was no sign of hemorrhage and no odor and after pains began. I should add also that from first to last there was no sign of any clot. The after-pains continued for nearly a week.

At the time of removing the last tampon there was some slight puffiness of the eyelids and hands; but the urine had become very clear, and at this time showed a sp. gr. of 1006, and a mere trace of albumin. The amount of urine averaged four to five pints daily. This slowly decreased, while the specific gravity increased until both became normal.

A slight fever, ranging from 99 degrees to 102 degrees, existed for two weeks and yielded to nothing until local applications of boroglyceride tampons were used.

Since then improvement has been steady and in two months the patient has gained perfect health and now weighs more than ever before.

This case shows:

First. The futility of half-way measures in checking severe hemorrhage; for I am convinced that nothing but complete uterine tamponade would have saved this woman.

Second. The importance of instructing our families in the necessity of more or less attendance throughout pregnancy and analysis of urine. Until called to attend this patient I had never seen her professionally. Had I seen her during pregnancy and discovered the faulty action of the kidneys, I am convinced the patient might have been spared this severe hemorrhage.

Third. That a hemorrhage may sometimes take the place of an eclamptic seizure. For nearly one hour after delivery her symptoms apparently indicated threatening eclampsia, and treatment was used to avert it. After the hemorrhage began there was not the slightest indication of a convulsion.

50 Years Ago

From *The Connecticut State Medical Journal*

November 1950

Prostatism Then and Now in New Haven Hospital—1878–1948

Herbert D. Axilrod, M.D., and Clyde L. Deming, M.D., *New Haven*

Dr. Deming. *Clinical Professor of Urology, The* School of *Medicine, Yale University*

Dr. Axilrod. *Associate in Urology 1948–49, The School of Medicine, Yale University*

AN analysis of the results of treatment of the first recorded 100 cases and of a more recent 100 cases of prostatism admitted to the New Haven Unit of the Grace-New Haven Community Hospital is of historic interest and practical value because it demonstrates the progress which has been made in the management and care of the prostatic patient. The ideas concerning the treatment of prostatism prevailing in the minds of the early Connecticut physicians leave no doubt of the seriousness of the disease and illustrate vividly the advances made in this special field of medicine in the past seventy years. In 1864, Gurdon W. Russell, M.D., Yale 1837, recorded in the second volume of the *Proceedings of the Connecticut Medical Society* that the disease, referring to prostatism, "is a fixed one, an established fact from which there is no escape; therefore, avoid the causes which are likely to bring on the paroxysm, if we may so term it." Although the distinctions between the various pathological lesions of the prostate do not definitely appear in the minds of diagnosticians at that time, one finds the crack in the - dawn of a modern conception of the pathology of the prostate in the reference of Dr. Tukey of Bridgeport, a Harvard graduate of 1894, to the statement of a Dr. Gouley that "much is heard about the therapeusis which is not based on sound pathology; and methods are being suggested for treatment of enlarged prostate as if it were one fixed morbific quantity."

In the latter half of the 19th century bladders distended with urine were still being catheterized with the flexible catheter, invented many years before by Benjamin Franklin. Cystitis was recognized and treated with chemotherapeutic agents, some of which are still in good use today. Anodynes, especially opium and belladonna, in the form of suppositories, were freely given and have no equal at the present time for relief of pain and control of bladder spasms. Conservative treatment in various forms was popular but the facilities for making an accurate diagnosis of prostatism with its many complications were not available. None of the modern procedures such as the routine use of the cystoscope, the assistance of the laboratory for the determination of blood nitrogen retention and renal functional tests, the x-ray and the electrocardiograph could be employed for complete diagnosis and the evaluation of the operability of the patient. Stones of the bladder, which occur as a complication in 20 per cent of prostatics, were frequently diagnosed, but were considered as in ancient times a medical entity and not a condition associated with prostatism, and to remove a bladder calculus was the sole object of treatment. Surgery when applied, resulted in distressing mortality and appalling morbidity. Dr. Thomas H. Russell (M.D. Yale 1875) informed the members of the Connecticut Medical Society in 1893, "Unfortunately we are obliged to admit

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Reprinted from the *Connecticut State Medical Journal*, November 1950.

From the Department of Surgery, Section on Urology, Yale University School of Medicine, and the Grace-New Haven Contmunity Hospital, New Haven, Connecticut

that the treatment of enlarged prostate, either medical or surgical, is with the possible exception of the modern operation of prostatectomy, simply palliative and not curative....:" and a decade later, in 1902, Dr. Ansel G. Cook writes: "The present operation of suprapubic cystotomy and enucleation is a severe procedure but is usually successful-if the patient lives." He further stated, "The treatment of the Prostatic Gland is a very serious matter; many deaths directly and indirectly are attributed to it, and the surgeon who can first successfully treat it will confer a great benefit on humanity." The seriousness of prostatic obstructive disease was not only recognized prior to 1900 but is further demonstrated in the analysis of the end results of the treatment of the first 100 cases to be reported.

Due to destruction by fire the earliest records of the hospital are not available. The present histories record the earliest date of 1878; and during the next 30 years until 1908, 100 cases of prostatisim were admitted for treatment. A similar number, 100 consecutive cases admitted in the nine months' period December 6, 1947 to September 5, 1948 are used for the comparison. The more recent group include all cases of prostatism, even those in the last stages of cancerous disease, who were sent into the hospital to die.

Table I shows that in the past 50 to 75 years there has been almost no change in the age groups, by decades, of patients who are admitted for prostatism. The oldest patient in the first series was 95 years and the youngest 45 years of age, with an average age of 69.4 years; while the average age in the more recent series is 68.9 years.

TABLE I

DECADE	NUMBER OF CASES 1878–1908	NUMBER OF CASES 1947–1948
40–49	1	0
50–59	10	11
60–69	44	38
70–79	27	38
80–89	16	12
90–	2	1

A considerable interest in these observations lies in the treatment of prostatism then and now. The 100 cases treated between the years 1878 and 1908 may be divided into three groups: (a) those treated surgically; (b) those treated primarily by urethral catheter drainage; and (c) those who received no special treatment for their prostatic obstruction.

Only 22 of the 100 patients were treated surgically; two of them had two operations. Table II indicates the seven types of operations which were employed. In this group there were seven deaths or a mortality of approximately 32 per cent. About 50 per cent of the patients treated surgically showed some improvement and 5 showed no alleviation of their urinary obstruction. Almost one-third of the operative cases had stones in the bladder and a note was made in most of the histories that the patient had some enlargement of the prostatic gland but no effort seems to have been made to remove the obstruction which was probably the cause for the calculi.

TABLE II

SURGERY	NO. CASES	NO. DIED	IMPROVED	AVERAGE STAY IN HOSPITAL
Suprapubic lithotomy	6	1	2	$4^{1}/_{2}$ months
Suprapubic cystostomy	4	1	3	$2^{3}/_{4}$ months
Suprapubic prostatectomy	1	1	0	7 months
Transperitoneal cystostomy	1	0	1	$^{1}/_{4}$ month
Enlargement of urethral fistula	1	0	1	2 months
Perineal prostatectomy	7	0	2	$3^{1}/_{2}$ months
Orchidectomy	4	0	2	3 months
Totals	24	7	12	

Suprapubic lithotomy was generally complicated by persistence of urinary symptoms of obstruction and slow closure of the suprapubic wound for the average stay in the hospital was four and one half months. According to the record the one patient who died of this operation expired from hypostatic pneumonia. It is of historical interest to note that the first spinal anesthesia in the New Haven Hospital was successfully given in the year 1905 for a suprapubic lithotomy.

Suprapubic cystostomy was followed by relief of symptoms. The one mortality occurred four months postoperatively from perivesical cellulitis and even this patient must have improved considerably for some time because there are notations in the history which indicate that from time to time he put a plug, in his suprapubic wound and expressed the urine *per urethram.* The one patient treated by transperitoneal cystostomy did remarkably well, although the prostatic enlargement was not removed.

Eight so-called prostatectomies were performed, seven of which were done by the perineal approach; and the first prostatectomy in this series was a perineal prostatectomy performed in 1903. There were four deaths in the series of seven perineal operations, two of which occurred within the first two days postoperatively and resulted from shock; one patient died six months postoperatively from sepsis and failure of closure of the perineal wound; and the fourth died four months postoperatively immediately after an attempted repair of a perineorectal fistula. The three patients who survived these pioneer efforts in the field of perineal surgery, which was done according to the technique of Hugh Young, were very much improved. The one suprapubic prostatectomy in this series, performed here in 1903, was followed by incontinence and failure of closure of the suprapubic wound; and resulted in the death of the patient six months postoperatively after an attempt to excise the suprapubic fistula.

One patient with multiple urethral fistulae secondary to stricture of the urethra received relief from his prostatic symptoms by enlargement of the urethral fistula. Four orchidectomics were carried out due to the reportedly excellent results of Dr. J. W. White of Philadelphia and in two instances remarkable success was achieved. There is, of course, no way of knowing whether the patients suffered prostatism due to benign overgrowth or to malignant disease of the prostate or to some other disease of the prostate or bladder neck. It may well have been that the two patients who were relieved of their obstructive symptoms by orchidectomy actually had prostatic carcinoma for today we recognize that hormonal treatment by orchidectomy gives relief of urinary symptoms for some months in an appreciable number of cases.

Of general interest is the fact that in the entire series of one hundred cases only one cystoscopy is reported, and that was done in 1902.

CONSERVATIVE TREATMENT

Seventy-eight patients were treated by nonoperative means, three of whom expired as a result of progressive renal failure and infection.

TABLE III

CONSERVATIVELY TREATED CASES

TYPE OF TREATMENT	NO.	NO. DIED	PER CENT MORTALITY	DEFINITE IMPROVEMENT
Catheterized	59	25	42	28
Supportive	19	6	32	9
Totals	78	31	39	37

Table III shows that 59 of the 78 patients were treated with catheter drainage, and that 25, or 42 per cent, died, while 28 were relieved temporarily of their distress. Patients suffering with severe cystitis received interval catheterization followed by boric acid solution irrigation. Of the 19 patients treated expectantly without surgery or urethral catheterization, 6 died and 9 improved. It is to be noted that even today rest and oral medication will relieve a certain percentage of prostatic patients of their severe urinary symptoms. Those who received catheter treatment remained in the hospital from one day to six months while those who received only supportive measures had a hospital stay of one day to two months.

Several of the drugs and the urinary antiseptics employed in the therapy for non surgical prostatic patients are still used by present day urologists. As early as 1878, opium and belladonna suppositories were used per rectum for bladder spasms. Bladder irrigations were done with boric acid. Potassium citrate by mouth was prescribed as a urine alkalinizer, for "too much acid" in the urine was an exposé of professional ignorance which is still used by those physicians who depend on the sunlight and sink test for urine examination. Morphine and spirits frumenti were liberally employed, and urotropin, which was first used in this hospital in 1900, has been successfully used as a therapeutic agent to the present time.

Thirty-eight out of the first 100 patients admitted for prostatism died in the hospital. The mortality rate in the operative cases was 32 per cent; in the patients treated by catheterization alone, 32 per cent. As far as can be gleaned from the histories only 3 patients were discharged well. In addition, two of the orchidectomy cases were apparently well, however, if they had prostatic cancers they can be assumed to have been only temporarily improved. Fifty-seven were not relieved of their obstruction and infection.

A summary of the more recent series follows. During the nine month December 6, 1947, to September 5, 1948, 100 cases of prostatism were admitted to this hospital, the same number as were admitted during the thirty years, 1878 to 1908. In spite of the present day increase in longevity, in general, we find the age in this group by decades to be practically the same, However, the estimated number of admissions for prostatic disease has increased from 3 per year to 130 or more per year. All of these recent 100 patients had either a cystoscopic study or an x-ray study of the bladder, and all were treated surgically. The type of surgery performed in each case was dependent upon the type of obstruction, whether it was intra- or extravesical, benign or malignant and whether there were vesical, cardiovascular or renal complications.

Seven different standardized operations were performed by six surgeons (see Table IV). The so-called perineal prostatectomy was performed 32 times for benign overgrowth and was employed when the prostatic overgrowth was primarily intraurethral or when there was any question of the presence of a resectable prostatic carcinoma. One patient developed a perineal fistula which closed after a punch operation was done on the bladder neck. In three of these thirty-two cases some degree of incontinence of urine persisted for three months postoperatively but did not last longer. No deaths or other complications were noted among the patients operated upon by the perineal route and all obtained a good result.

Table IV

Surgery in the Recent Series of 100 Cases

TYPE OF SURGERY	NUMBER OF CASES	NUMBER DIED
Conservative perineal prostatectomy	32	0
Radical perineal prostatectomy	3	0
Perineal biopsy	1	0
Primary suprapubic prostatectomy	18	0
Two-stage suprapubic prostatectomy	25	2
Transurethral resection	13	0
Retropubic prostatectomy	8	2

Radical perineal prostatectomy was performed in three cases for early carcinoma of the prostate. The whole prostate and the seminal vesicles were removed with a cuff of bladder neck and the bladder anastomosed directly to the membranous urethra. No operative complications were encountered and no deaths occurred. These patients all have full control of urination, their urines are free from infection and to date there has been no demonstrable recurrence of tumor in any case.

One perineal biopsy was done for tissue diagnosis. The prostatic tumor in this case proved to be cancer, was too extensive for total resection and no further surgery was undertaken other than castration.

When the prostatic enlargement had a significant degree of intravesical protusion, the suprapubic approach was employed. Primary suprapubic prostatectomy was performed on eighteen patients and there were no fatalities. One patient developed an urethral stricture controlled by dilatation and one developed persistent stress incontinence. Twenty-five two stage suprapubic prostatectomies were done. Two of these patients expired within two days after enucleation, one as the result of a cerebral hemorrhage and the other of a cerebral thrombosis. One patient developed a postoperative stricture relieved by simple urethral dilatation and another developed thrombophlebitis of the lower extremities from which he recovered.

Thirteen transurethral resections were done. The surgeons chose this operation primarily in cases of contracture of the vesical neck, median bars and small solitary middle lobes. There were no deaths. One patient had persistent dribbling; while another had relief of his residual urine but had persistent symptoms of urgency due to prostatitis, seminal vesiculitis and cystitis of intractable nature.

Retropubic prostatectomy was performed on eight patients. This procedure was selected for patients with extravesical lateral lobe enlargement and was followed by two deaths. One patient, who had amyotrophic lateral sclerosis, died twenty days postoperatively as a result of respiratory arrest; the second patient died of a cerebral hemorrhage sixteen days postoperatively. Osteitis pubis developed as a complicating factor in two patients who were old and debilitated. The retropubic prostatectomy, a revival of an old operative procedure, is applicable to few patients.

In this recent series of one hundred cases of prostatism there were four deaths, three of them cardiovascular, the other neurological. Thus, the series shows a 4 per cent mortality against a 38 per cent mortality of fifty years ago. Ninety-six percent of the patients were relieved of their obstruction as against 8 per cent of the early series. In the latter series, the control of infection before and after operation undoubtedly is a significant factor. Another factor is the present day preparation of the patient for operation, which was not considered in the earlier group. In order to qualify for operation, the patient must now meet these criteria: stabilization of the non protein nitrogen at or below 50 mg. per cent; a two hour phthalein test which indicates a stabilization of kidney function, with an appearance time of ten minutes or less and the excretion of more dye in the first hour than in the second; a normal temperature for at least three days preoperatively; a red blood cell count of four million; a hemoglobin of ten and one half Gms. or correction of any deficit by transfusion; the determination of plasma CO_2 combining power and chlorides and the correction of any acidosis by appropriate parenteral fluids; an evaluation of the patient as a whole, especially in regard to the cardiovascular system and appropriate therapy when indicated; and the ability of the patient to be ambulatory. All of the one hundred patients in the second series were made to meet the minimum standards for prostatic surgery by supportive measures either with urethral catheter drainage or suprapubic drainage. Epididymitis, which used to be a distressing complication associated with local pain, pyrexia and loss of mental faculties or with the development of manic psychoses, is prevented by routine vas ligation.

As the patients are admitted, one in four or five are found by microscopic examination of prostatic tissue to have cancer. The prostatic cancer problem which was nil in the first 100 cases is now of primary significance. Cancer of the prostate in its early stages can be controlled by complete extirpation of the prostatic gland. Tissue biopsy, usually by the perineal route, is now obtained from all cases suspicious of a cancerous lesion. Those patients whose prostatic cancer can not be controlled by total excision are relieved surgically of their obstruction and given hormonal therapy either by castration or synthetic female hormone which controls their intractable pain and prolongs life a year or two. The period of hospitalization has been greatly reduced from one to six months to 10 to 20 days. However, due to the rising costs of hospital care there has not been any reduction in the cost per patient.

Today, relief of urinary distress can be obtained by any of the surgical procedures available , provided the cardiovascular and renal functions will tolerate such therapy. Many patients who have severe infections, cardiac decompensation and renal insufficiency may be tuned to operative classification by preoperative treatment. The surgical approach depends on the complete understanding of the pathology present. The malignancy of the prostate is a serious problem, as only 4 or 5 per cent are seen early enough in the disease to effect a control. The operative mortality has dropped from 38 per cent to 4 per cent and now occurs in patients who might have died of these uncontrollable accidents regardless of their operations. The future of the prostatic has changed therefore from a gloomy, pessimistic outlook to one of optimism, comfort and a longer life.

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H. David Crombie, M.D.
Connecticut Medicine
160 St. Ronan Street
New Haven, CT 06511

University of Connecticut School of Medicine

Department of Community Medicine Seminar Series
Calendar—Winter 2000–2001

November 2

David Bangsberg, M.D., M.P.H., (Director, HIV Assessment and Prevention Service, San Francisco General Hospital, University of California—San Francisco)

"Assessing Adherence to HIV Antiretroviral Therapy: Lessons from the Urban Indigent"

Objectives: Participants will understand 1) methods of assessing adherence; 2) the relationship between adherence and viral suppression; and 3) how to develop strategies to assess and improve adherence in clinical practice.

To Be Announced

Judith K. Ockene, Ph.D., M.Ed., (Professor of Medicine and Chief, Division of Preventive and Behavioral Medicine, Department of Medicine, University of Massachusetts Medical School)

"Teaching Primary Care Physicians Patient-Centered Counseling for Brief Preventive Interventions: Does It Make a Difference?"

Objectives: Participants will 1) understand the general principles of patient-centered counseling; 2) know the factors that affect physicians' delivery of brief interventions for health behavior change; and 3) be aware of the patient outcomes related to patient-centered counseling for brief physician-delivered intervention.

December 7

Garry Lapidus PA-C, M.P.H,. (Director, Injury Prevention Center, Connecticut Children's Medical Center, Assistant Professor of Pediatrics and Public Health, University of Connecticut School of Medicine)

"New to the Road: Reducing Risk for Teenage Drivers"

January 5

Sara Beatrice, Ph.D., (Director, Retrovirology and Immunobiology Division, New York City Department of Health)

"Increased Detection of HIV-2 in New York City-1998–Present"

February 1

Patricia Case, M.P.H., Sc.D., (Department of Social Medicine, Harvard Medical School)

"Social Inequalities, Drug Use, and Risk of HIV"

Objectives: Participants will be able to 1) identify three special populations at risk for HIV; 2) describe direct and indirect social factors contributing to risk of HIV; and 3) discuss potential new directions for intervention to prevent HIV and other diseases in these special populations.

All seminars are held at the University of Connecticut Health Center from NOON to 1:30 P.M. and lunch is offered *free of charge* provided your reservation is received two days prior to the seminar. For specific location, information and reservations call: Theo Ungewitter (860) 679-5495.
Seminar information is also on our web site: http://www.commed.uchc.edu/medicalhumanities/

Sponsored by: University of Connecticut School of Medicine, Office of Continuing Education, Department of Community Medicine and Health Care and Supported in part by an unrestricted educational grant from Agouron Pharmaceuticals, Inc.

Target Audience: Physicians and Other Health Professionals *Accreditation:* The University of Connecticut School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The University of Connecticut School of Medicine takes responsibility for the content, quality and scientific integrity of this CME activity. The University of Connecticut School of Medicine designates this educational activity for a maximum of 1.5 hours per session in category 1 credit towards the AMA Physician's Recognition Award. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

Conflict of Interest Policy: All faculty participating in Continuing Medical Education activities sponsored by the University of Connecticut School of Medicine are required to disclose to the program audience any real or apparent conflict of interest related to the content of their presentations.

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For Inspiration, Go to the Source

At times like these, with some doctors seeking early exit from the frustrations of medical practice, it might be wise for us to search for inspiration from the stories our patients tell. The lives they lead amidst the adversity of illness and disease that we have been assigned to treat, through privilege, learning, and good fortune, can often serve as a source of that inspiration. A recent personal experience with such a patient and such a story may make the point that my own father often made to me when some misfortune besmirched my comfortable day: "I cried because I had no shoes until I met the man who had no feet."

Nine years ago I was called to the labor and delivery suite of my hospital to see in consultation a 32-year old woman in labor whose obstetrician had discovered a one-inch diameter mass in her left breast. As I felt the lesion, which had characteristics consistent with malignancy, and read the fear on her face—fear for the future of her yet unborn child, for the future of her two-year old son, and fear for her own life—I became emotionally and professionally committed to delivering to her the very best in surgical care directed at allaying those fears.

A needle aspiration biopsy was positive for poorly differentiated cancer. After her second son was born later that day, the options for regional treatment were discussed. She felt that the care of her newborn and his older brother would be more difficult if she faced daily trips to a radiation therapy center some 30 miles from her rural home on Connecticut's northern border. She chose modified radical mastectomy as the most expeditious means of addressing the regional control of this dread disease.

Two days later surgery was performed without complication. The specimen revealed a high-grade mixed ductal and lobular carcinoma with 14 of 16 axillary lymph nodes involved with metastatic tumor. The extent of disease led to a plan from the medical oncologist for both adjuvant chemotherapy and radiation therapy. After recovery from childbirth, mastectomy, chemo, and radiation it was clear that to keep the family financially afloat she would have to return to work at the small manufacturing company where her husband also worked. With our patient working the first shift and her husband working the second, they swapped places behind the wheel of the family car in the parking lot of the factory at 4 P.M. each day with the two little boys in the back seat.

Each time she visited me in follow-up I was stricken with a mixture of extreme admiration for her courage and resilience, and ominous portent about her disease. Pretty tough, I thought. Small children; grim prognosis; money short. Then she reached the five-year milestone free of disease and my pessimism began to diminish. She underwent reconstruction with a TRAM flap and gained a superb result. Her prospects at the seven-year anniversary were looking even better to her and to me. The mammogram of the remaining breast remained negative each year, but recently, with the 10-year milestone in sight, she felt a mass in the right breast. Possessed with fear, fatalism and denial, she waited two months before returning to my office with her finding.

When biopsy of this second lesion yielded a positive cytology, again a poorly differentiated carcinoma, the concern arose that it might be metastatic. The excised specimen, however, looked like a new primary which led to another modified radical mastectomy and immediate first-stage reconstruction. A single lymph node in the axillary dissection specimen was extensively involved. She faces more chemotherapy, more work loss, more financial instability, and most of all, the daily reminder that she is the unfortunate, though valiant, possessor of a potentially lethal disease. Yet she goes on, accepting our recommendations, giving of her love to her sons and husband, facing each day and each hurdle with a determination to live. She is an inspiration.

H. David Crombie
Editor

The Robert U. Massey History of Medicine Society

2000–2001 Schedule of Presentations

December 13

Thomas Murray, M.D., Ph.D., Pediatric Residency Intern, Yale New Haven Hospital

Culturing the Throat to Protect the Heart:

Dr. Milton Markowitz and the History of Rheumatic Fever

January 10

Amala Guha, M.P.H., Ph.D., *Assistant Professor of Medicine, School of Medicine, University of Connecticut*

Ayurveda: *Of Mind, Body and Spirit and the Origin of Holistic Medicine*

February 14

Arnold Katz, M.D., *Professor, Cardio-Pulmonary Dept., School of Medicine, University of Connecticut*

Emergence of Rational Explanations of Nature in Ancient Greece:

The Only Scientific Discovery?

March 14

Jack Hasson, M.D., *Pathologist, University of Connecticut,* Retired

A History of Autopsy and Fallibility

April 11

David Crombie, M.D., *Surgeon, Hartford Hospital*

Nathan Smith (1762–1829), all New England Surgeon

The Robert U. Massey History of Medicine Society is an association of individuals interested in presentations and discussions on the history of medicine. The society seeks to foster an understanding of medicine's history and an appreciation for the cultural and social settings in which medical developments have taken place. The society also seeks to encourage health sciences students to acquire an appreciation for their historical heritage.

The society is affiliated with the University of Connecticut Health Center and is open to those who have an interest in the history of medicine. A roster of members is maintained in the Department of Community Medicine and Health Care. Those who wish to be included on the membership roster should notify this department to be included on the mailing list for society lectures. The willingness of members to present lectures or recommend speakers contributes to the society's ability to maintain community interest and to attract new members.

The society meets the 2nd Wednesday of the month at 5 P.M. in the Health Center. **Directions to Meeting Room from the Academic Entrance:** Proceed up one floor and approach the courtyard. Both Lecture Room A and the McManus Room are on your right. *For further information:* Mary Petruzzi, Administration, University of Connecticut Health Center Library, Farmington, CT 06030-4003; (860) 679-2840; *email:* petruzzi@nso.uchc.edu; *Visit our web site at:* http://library.uchc.edu/history/

THE PRESIDENT'S PAGE—PERSONAL INSIGHTS

We Won't Say No to Our Patients

The financing of health care continues to be a major societal concern. Employers, insurers, and employees are complaining of rising costs and increasing premiums with decreasing coverage. At the same time, Congress wants to curb health care spending by placing limits on the amount of health care dollars available for Medicare and Medicaid.

This is what happened when Congress passed the Balanced Budget Act of 1997 (BBA). The intent of the BBA was to curb the rate of Medicare spending to save $115 billion in direct medical expenses over five years (2002). As a result, the "climate of cost containment" has spread to nursing homes, home health agencies, hospitals, teaching centers, and managed-care organizations. Medicare's historic role of supporting the social mission of our health care system is lost. This tradition used to include financial support for post-graduate residency and fellowship training, uncompensated care, basic science and clinical research, and the training of medical students.

For starters, outpatient medical services alone were shortchanged $3 billion in 1999. Most of the 400 major teaching hospitals are facing an incredible loss of financial support as a direct result of the BBA:

Projected loss by the year 2002	*For Services Provided*
$50–150 million	Post-Graduate Training, Indigent care
$200 billion	Direct Care to Medicare Patients

The American Medical Association Office of General Counsel estimates that physicians are expected to provide $50 billion in free medical care over the next 10 years. All of this is occurring while the major political parties are bragging over the credit rights for the projected $123 billion dollar federal budget surplus. According to the House Ways and Means Health Subcommittee, the BBA is reducing Medicare spending in ways that were never intended. Physicians and hospitals have only four ways of coping with these unintended consequences: lose money, fire staff, cut back on services such as nursing home visits and cardiac rehab services, or restrict access to care for Medicare patients in order to maintain overhead costs. None of these choices is very palatable. We, as physicians, need to act before our entire health care infrastructure is hopelessly eviscerated.

The AMA is suing the Health Care Financing Administration, which administers Medicare, for reckless underpayment (unlawful undercompensation) to physicians who provided care for the 39 million Medicare recipients in 1999. Representative Nancy Johnson and many other members of Congress are working to restore some of the life support that was cut by the BBA. The House Ways and Means Health Subcommittee is planning to infuse $15 billion into funding for the health care of the elderly and disabled over the next five years to contain this funding hemorrhage. But much more funding must be restored if Medicare patients are to survive—probably 75 billion over the same period according to estimates by the House and Senate committees.

Enter the State of Connecticut, which reduced payments for direct physician services by over $14 million while mailing $50 tax rebates to our citizens. The Connecticut State Budget Office decided to implement a bill passed by the 1991 Connecticut Legislature and supported by a provision of the BBA which permits states to limit Medicaid payments for medical services provided for Medicare-Medicaid dual eligible (so called cross-over) patients. Who are these patients? The very population (77,000) of the elderly and disabled that needs the most medical care and support services—those most likely to have multiple chronic diseases, or chronic mental illness, or dementia, end stage cancer, heart disease, or renal failure. The majority of crossover patients are frail and impoverished and are female. Many live

(continued on next page)

in nursing homes; some live alone. Most did not even qualify for the $50 state tax rebate. They are likely to have no earned income and to live at the poverty level. How will their needs be met when Medicaid offers a financial disincentive to provide care?

Here is how it works: a patient receives $100 in usual and customary services or procedures from a physician. The Medicare payment schedule for this specific service is reduced to $50. Medicare traditionally pays 80% of the Medicare fee schedule or $40. Under the Medicare act, the patient is responsible for the remaining 20% of unpaid balance (copay) of $10. However, if both Medicare and Medicaid cover the patient, the copay is waived to the state Medicaid program. Under the Medicaid Act of 1965 the state has always paid this copay to physicians to avoid undo financial hardship for the poor. In the state of Connecticut however, a physician cannot bill the state for this 20% copay and is forced to accept the maximum Medicaid fee schedule of $35. In this example, the doctor will receive 35% of the usual and customary fee for providing medical care to a labor intensive and high-risk group of patients. This is blatantly unfair and unjust. The social responsibility to provide for the well being of poor and elderly patients has been thrown onto the backs of physicians—but how long can they bear it with 60% office overhead expenses and drastic cuts in reimbursements across the board from insurers. Medicaid is also not paying for the yearly $100 deductible which means physicians who provide nursing home care will have to make three nursing home visits before receiving a single payment.

The BBA has created a two-tiered Medicare system based on wealth. The health of poor people appears to matter less than those who can easily afford health care. Much to the credit of our profession, the dual-qualified Medicare patients continue to receive needed medical services. Paradoxically, the federal courts in New York have documented the generosity and dedication of physicians to prove that these patients are not receiving substandard care. But the fact is that physicians are being forced to limit the number of "new" dual eligible office and nursing home patients they can realistically manage. Until the state accepts its fair share of fiscal responsibility for the care for our most desperate citizens, Connecticut physicians will continue to do the best they can to care for their neediest patients.

Donald D. Timmerman, M.D.
President

Less May Be Better

ROBERT U. MASSEY, M.D.

DURING a conversation last month with a highly-placed official in one of the major insurance HMOs, a good friend incidentally, I asked what solutions his outfit was considering for some of the problems plaguing medical care in the United States. "Let me say right off," he remarked without smiling, "in my view the thing is unfixable. Demand for health care is insatiable, unlimited."

Later that week I was speaking with a friend whose wife has had coronary artery disease for years, but never a myocardial infarction. He was crowing about her remarkable care: "She's had seven angioplasties and two stents this past year."

"How come so many?" I asked.

"Every time she has chest pain, I take her in, and her doctor says she's ready for another angioplasty."

As I recall, this has been going on for four or five years. She is in her mid-70s. and her care during this time has not been in Connecticut. And anyway, bimonthly angioplasty may be state-of-the-art cardiology for all I know.

Perhaps, I thought later, these may not have been decisions reached independently by her physician. She or her husband may have learned how they can control her therapy. It may go something like this:

"My wife had some chest pain last evening. Don't you think she needs another angioplasty?" If the doctor should demur, he could face a major lawsuit were she to be felled by a massive myocardial infarction later that afternoon. To say "yes" is less chancy, it's low risk, and her insurance will cover it. Best to go ahead, he thinks, no time to bother explaining, and they wouldn't understand anyway. It's always hard to say "no" face to face.

Fifty years ago when I began to practice internal medicine, the physician-to-population ratio was about 1:1,200; I saw eight to 10 patients a day in the office, four or five in the hospital, perhaps a house call on the way home. Those were 11 or 12-hour days. Ambulatory care insurance was unavailable in that long-ago time. When someone contemplated calling for an appointment with the doctor, the cost of that had to be balanced against other competing goods, such as taking the kids to dinner and a movie! Now the physician-to-population ratio is close to 1:400, three times as many internists seeing three or four times as many patients every day! What a successful market! But there is no time to waste listening, explaining, comforting, teaching, playing the doctor's most useful roles. Now, even though over 45 million lack health insurance in America, seeing a doctor for the rest of us, especially if we are in the entitled Medicare crowd, requires making no serious economic decision.

My HMO friend may be right; the rising costs of medical care, way beyond the rate of inflation, will go on and on without some heavy-handed form of rationing, some restraint. Many HMOs have found ways to offend far too many by their methods; politics and time are against them, their years are numbered. As we move toward universal health insurance, some way to reintroduce market forces must be found. The invisible hand of Adam Smith, while imperfect, often clumsy, may offer the best way to temper the demands for perfect health, unending cheerfulness, and eternal youth. My HMO friend is a realist; given our selfish, consumerist, permissive culture, the thing is unfixable!

In recent months we have been told by some serious social prophets that the signs of the times suggest a coming Great Awakening, somewhat along the lines of the late 18th-early 19th-century reaction to the Age of Reason. That may be so, for surely there are tides in history as in the sea or the stock market. In medicine, lonely prophetic voices have been proclaiming for more than 30 years that health, the idol set up as the *summum bonum*, may be instead a false god, leading us inevitably to personal, social, and financial ruin. Real philosophers have always asserted that health is never an end to be sought for itself alone; it is but a means, one of several, to a good life.

Two years ago Daniel Callahan, in his book *False Hopes*, wrote:

ROBERT U. MASSEY, M.D., Professor Emeritus, Division of Humanistic Studies, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington.

> Once people have made it past the point of premature death (a point I would set in the range of 65 to 70 years), then the highest priority for medicine should become not to avert death but to enable people to live as comfortable and secure a life as possible. ... The possibility that health care systems will go bankrupt after the turn of the 21st-century is evident in the demographic and financial projections. Those who want to receive expensive forms of health care well into old age should be expected to pay for them out of their own pockets, or to pay a particularly high deductible or copayment.[1]

The airy surplus projections recently made by our presidential candidates—someone called it "the politics of the absurd"—may well never materialize. Even if the economy should generate the billions so glibly predicted, our uninsured young people, and especially our uninsured children, who should be first in line, will be left out.

My HMO friend is also a pessimist, as I would be in his shoes. Fixing the system will depend, not upon planners and managers and politicians, but upon a kind of intellectual or spiritual awakening. Medicine needs to distance itself gradually but deliberately from uncritical dependence upon every new technological amazement that comes along. Doctors need to nurture a willingness to say "no" to requests from patients for expensive, life-extending technology, especially when a full life has already been lived. They also need to steel themselves to say no to nonessential tests, procedures, and therapies. Doctors can do that so much more acceptably than faceless HMO bureaucrats. They need to take time, an hour at least, for a careful history and skillful physical examination, fewer laboratory tests and CT scans and MRIs, and then prescribe fewer and less expensive drugs.

Doctors should know the cost of drugs they prescribe. That perhaps is easier said than done. Back in 1950, my PDR was no more than half an inch thick; it is now three inches, 3,355 pages. My pharmacology professor once said that we should not need more drugs in our practice than the fingers on our two hands! That was in 1944. But even now many, if not most, of the new drugs are "me-too" drugs, and almost equivalent generics are usually available. And furthermore prescription-drug, hospital, and physician advertising in the public media seems unethical! Our patients are paying for those ads!

Kenneth Ludmerer, author of the recent book, *Time to Heal : American Medical Education from the Turn of the Century to the Era of Managed Care*, wrote recently:

> Looking ahead, medical education and practice in the United States are at a critical juncture.... Fortunately, the principles for preserving quality in medical education and practice are surprisingly simple,... We need to slow down the pace of clinical care so that physicians have enough time to heal, teachers have enough time to teach, and learners have enough time to learn.[2]

I recall hearing, many years ago at a medical education meeting, two internists who reported a study in which they compared their practice habits, specifically the amounts that each had cost the "system" during the course of the year. They were in the same group practice and covered for one another. They asked one of the managers in their group to keep a record of all the tests and procedures each ordered, his referrals, his hospital admissions, and the costs of the prescriptions each wrote. Their initial hypothesis was that their practice habits were similar. Their patient populations were comparable in both age and numbers, sometimes even interchangeable since they covered for one another. They even made hospital rounds together. At the end of a year, the results were tallied: one of them, to the surprise of both, cost the "system" almost twice as much as the other, as I recall, $600,000 to $300,000. Of course, there was no significant difference in outcomes.

Unfortunately health care has become thoroughly politicized, almost guaranteeing the wrong solutions to its problems, and our institutions, even some of our academic health centers, have become business corporations. Connecticut now has its first for-profit hospital; others must surely follow. Medical care has become a business whose main concern is money. Frank Davidoff, in a recent editorial in the *Annals of Internal Medicine*, wrote that talking more about the ethics of medical care may give "the staff a way to talk seriously about something other than money as their main concern ... 'It changed the subject.'"

"Considering what is happening in health care these days, changing the subject seems, increasingly, a good idea," he concluded.[3]

Up to a point. But we cannot forget that we have made health care in America the most expensive, elaborate, and technologically dependent in the world, while essentially denying the best of it to one-sixth of our population. We may need to remind ourselves that less is often better, that smaller is good, but only if justice is served.

REFERENCES

1. Callahan D: *False Hopes: Why America's Quest for Perfect Health is a Recipe for Failure*. New York: Simon & Shuster; 1998:256.
2. Ludmerer KM: The creation of *Time to Heal*. *Ann Int Med* 2000; 133:396–9
3. Davidoff F: Changing the subject: Ethical principles for everyone in health care. *Ann Int Med* 2000; 133:386–9.

This Month's Reading in Review

TIMOTHY B. NORBECK

"The Human Genome Project is going to have an impact on this whole process unlike anything we can imagine at this point," McDermott said. "Because if I'm an insurance company and I get a drop of your blood and I can do your genetics and I find you have these and these and these proclivities, I'll insure you for everything but those. What is insurance at that point?"

"The game is over at that point," McCrery agreed. I told them I had asked Chip Kahn, of the Insurance Association about this, and he had assured me that insurers would never use genetic information that way. The two legislators exploded in thigh-slapping laughter. "No comment," McDermott finally managed to say.

From Mathew Miller's interview of
Representatives Jim McDermott (D-WASH) and
Jim McCrery (R-LA), and which appeared in the
Atlantic Monthly (October 2000)

"The Senate's action today is an important first step in leveling a playing field for patients that has for too long been tilted in favor of the HMOs. It is an important first step toward reaching our goal of always putting patients first."

Comments of New Jersey Governor Christine Todd Whitman (R) after the New Jersey Senate unanimously passed a bill giving patients the right to sue their HMOs.

Bergen Record (3 October 2000)

"Today's census figures show there are fewer uninsured Americans today, despite a two-year increase in health insurance premiums. If insurers are going to put their profits before the patients of America, they should at least stick to the facts. Increased premiums have **not** increased the number of uninsured, and yet patients still wait for protection against managed care abuses."

Thomas R. Reardon, M.D., Immediate Past President of the AMA, commenting on new census figures which indicated that the number of the nation's uninsured declined by 1.7 million from 1998 through 1999.

PR *Newswire* (2 October 2000)

It appears that the most generous people in the United States reside in some of the poorest states.... A study of federal income tax returns found that people in states with higher per-capita incomes, in general, make smaller charitable donations.... Massachusetts was the worst in the country—ranked at No. 50—while Mississippi was considered the best-ranked at No. 1.... Connecticut was 45, RI—46, NH—49, VT—30, ME—29, NJ—48, and NY—28.

U.S. News & World Report (2 October 2000)

Is Anyone Listening?

"A large majority of women—72%—would like their health insurance to be independent of their employment. This was not even one of the issues the pollsters had intended to ask about, but it came up repeatedly in the focus groups that preceded the polling. Politicians should take notice."

Bob Herbert, in his column referring to a series of focus groups and a bipartisan national poll conducted for Lifetime Television and the Center for Policy Alternatives.

New York Times (28 September 2000)

A survey reveals that four out of five seniors from 55 top colleges and universities in the United States received a grade of D or F on history questions drawn from a basic high school curriculum.... Although they were given specific answers from which to choose, less than one-quarter (23%) of the students correctly identified James Madison as the Father of the Constitution.... Even fewer, 22%, were able to identify "Government of the people, by the people, for the people" as a line from Lincoln's Gettysburg Address.... By contrast, 99% of the students surveyed knew the cartoon characters Beavis and Butt-Head.

From an article commenting on the survey
conducted by the Center for Survey Research and
Analysis at the University of Connecticut.
Reader's Digest (October 2000)

Percentage of patients who don't comply with their doctor's orders in taking medications: 76

Health (October 2000)

Only in America

After a natural gas explosion leveled Leonard and Harriet Walit's Brooklyn, N.Y., brownstone, local officials took quick action to force Mr. Walit, 72, to clean up the mess. "The responsibility to take such action is yours, and because of the severity of the condition, the work must begin immediately," demanded the Brooklyn Borough Building Commissioner in a letter sent to Walit the very next day.... But Walit won't be cleaning up any time soon or replying, for that matter, since he and his wife were both killed in the blast.

This is True (24 September 2000)

TIMOTHY B. NORBECK, Executive Director, Connecticut State Medical Society.

I am frightened.
Palmer Harston - 1995
I am fearless.
Palmer Harston - 1999

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Connecticut State Medical Society

Early in the year 2001 the Councilors from the eight constituent county medical associations will assume the responsibility of selecting members of the Society to participate in the various activities of the Society, listed below. In making these selections it is of importance to choose physicians who are not only willing and able to serve but also who are known to have an interest in the work of the group to which they may be assigned.

In order to enable this office to furnish the Councilors with a compilation of those who desire to be considered for committee service, members are asked to indicate by number in order of preference (not more than three) in the questionnaire below.

Please indicate your first three committee prefernces individually by inserting the numbers 1, 2, and 3 on the appropriate line and fax to: (203) 865-4997 or mail by January 15, 2001 to: CSMS Committees, 160 St. Ronan Street, New Haven, CT 06511.

Medical Education

____Committee on Continuing Medical Education

Medical Economics

____Committee on Insurance

____Committee on Workers' Compensation

____Managed Care Patient Advocacy Committee

Professional Relations

____Committee on Ethical and Judicial Affairs

Public Affairs and Communication

____Editorial Committee on *Connecticut Medicine*

____Committee on Legislation

____Committee on Public Affairs

Scientific and Socio-environmental Medicine

____Cancer Coordinating Committee

____Committee on Physician Health

____Committee on Maternal Morbidity and Mortality

____Committee on Medical Aspects of Sports

____Committee on Alcohol and Other Drug Dependency Education

____Committee to Study Perinatal Morbidity and Mortality

____Committee on Public Health

____Committee on Organ and Tissue Transfers

____Committee on Geriatrics

____Committee on Medicare

____Committee on Allied Health Services

Representative and Advisors

____Representatives to Connecticut Advisory Council on School Health

____Delegates to Connecticut Public Health Association, Inc.

____Delegates to Connecticut Nutrition Council

Name:____ M.D.
(Please Print)

Office Address: ____________________________________

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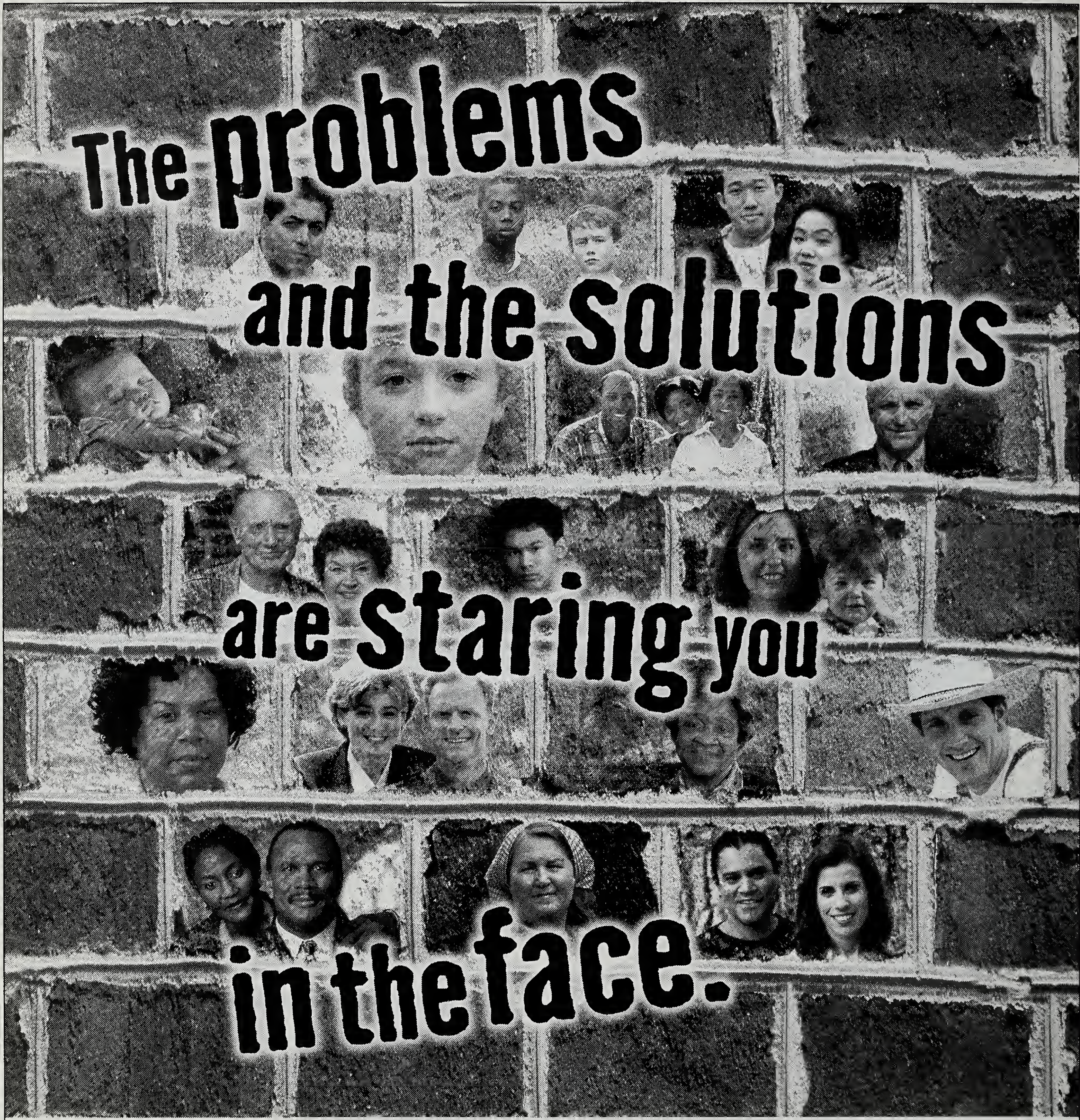

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BOOK REVIEW

Murders at Hollings General
Jerry Labriola, M.D., 357 pp., Strong Books, 2000,
Publishing Directions, Southbury, Connecticut. $19.95.
ISBN 1-928782-00

Surgeons may be medical mechanics, but internists and pediatricians are medical detectives. We might therefore be forgiven our day-dreams, our fantasy headline: "Busy office internist outsmarts police, captures murderer." I couldn't wait to live out that fantasy in Dr. Jerry Labriola's 1999 medical murder mystery "Murders at Hollings General." True to the genre, our larger than life hero, half-time physician, half-time sleuth Dr. David Brooks dodges cars, bullets and poison darts and investigates murders committed with scalpels, samurai daggers, and Japanese sniper bullets. Unfortunately, Dr. Brooks is an absurdly contrived hero who would be genuinely funny if he and the other characters didn't take him so seriously. He's a handsome, sensitive, strong, and all around nice guy who will soon wed his romantic interest, Kathy Dupre, a short, spunky homicide detective who tirelessly protects David from her new supervisor, Detective Chief Nick Medicore.

Though he has never been married, he has been around: "he had his pick of the hospital's eligible women and often picked Belle (his current secretary) until Kathy resurfaced for good," and the CEO's secretary Doris was described as "one employee David had never dated" presumably because she was fair, fat, and 40. Dr. Labriola constructs his main character with laughable contradictions: he drives a black SL500 Mercedes convertible "no hat, no overcoat, just his trademark black scarf and gloves," but lives in a small four-room ranch. He practices percussive Karate, but is an opera buff. He reads mythology, talks to trees, and adores animals, but he has a huge gun collection and packs a semiautomatic Beretta Minx .22 in his shoulder rig and a Super Blackhawk .44 Magnum in his briefcase named Friday. His only imperfections are a bad knee and a small scar near his cleft chin.

Sadly, our over the top physician hero stops well short of a complete send-up character. While he's goofy and improbable enough, he's also too introspective and spends too much time thinking, figuring, making lists and being dumbfounded: "David yanked off the sheet and arched at the sight of a metal safe. Stupefied, he crossed his arms and attempted to fathom its meaning." That's funny but I don't think it was meant to be. If you're going to play the goof then go all the way.

I have a few more quibbles. I wish Dr. Labriola had caught the jargon more effectively: David whipped, streaked, ambled, barreled, sidled, and sauntered, he "motored home" and referred to the bad guy as "the perp" and "Mr. Killer."

Billed as a medical murder mystery, it is only medical in that the story is set at a hospital and the cast of characters are the usual good and bad guys you see in a hospital. The practice of medicine plays no role in the story. The only patient that Dr. Brooks diagnosed and treated I believe he mishandled. He made a house-call on a diabetic child who was in DKA from bronchitis, and he left her at home with an oral antibiotic, expectorant, vaporizer, increased oral fluids and more insulin. The 10-year-old had had four plus urine sugars and large ketones for four days. She probably wouldn't have lasted that long, but even if she did she was described as ketotic, febrile, and dehydrated. Respirations were shallow and rapid—why not Kussmaul? In my opinion she was too sick to be managed at home and should have been sent to the ER.

Lastly, how does David make a living? I would love to be able to survive on a few patient encounters each afternoon, but if you spend half a day away from patient care, you have to see many more patients than Dr. Brooks appears to see. He does his sleuthing for free and his secretary scolds him for frequently not submitting bills for his patient encounters. His only apparent sources of income are the afternoon house-calls he makes for other physicians. The most he could see is eight patients in four hours (being generous about travel and visit time) and these days, his net pay wouldn't even approach a sustaining salary.

There is a lot to like in this novel. Much of the best I can't applaud without giving away the plot twists and shifting suspects. I respect Dr. Labriola for crafting his first novel. Physicians could use more authors like Drs. Michael Crichton, Robin Cook, and Frank Slaughter to spirit us away from the endless forms, piles in the in-basket, HMO "precerts" and the other mundane realities of medicine into the fantasy world of the medical detective.

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IN MEMORIAM

BUNCE, JAMES M., Yale University School of Medicine, 1942. Dr. Bunce practiced obstetrics and gynecology at Hartford Hospital for 32 years. He was a past president of the Connecticut Society of Obstetrics and Gynecology and a member of the New England Society of Obstetrics and Gynecology. In addition to the Hartford Medical Society, he was a member of the Hartford County Medical Association and the Connecticut State Medical Society. Dr. Bunce died 30 August 2000 at the age 82.

CALABRESE, PATRICK R., Universita di Bologna, Facolta de Medicina e Chirurgia, Italy, 1969. Dr. Calabrese was senior attending physician, department of medicine, section of gastroenterology at Bridgeport Hospital, and maintained a private practice in Bridgeport. He was a member of the Fairfield County Medical Association and the Connecticut State Medical Society. Dr. Calabrese died 22 September 2000 at the age of 57.

DICKERSON, O. BRUCE, University of Missouri, Columbia, School of Medicine, 1962. Dr. Dickerson specialized in occupational medicine and was the executive director of Health Direct Corporation in Farmington. He was the founder and owner of Dickerson Occupational Health Systems in New Canaan. Previously he was director of health and safety at IBM in New York. Dr. Dickerson was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Dickerson died 28 August 2000 at the age of 64.

ELLISON, MALCOLM M., University of Rochester School of Medicine and Dentistry, 1943. Dr. Ellison retired from his New London surgical practice in 1994. He was a former Chief of Surgery at Lawrence and Memorial Hospital. Dr. Ellison was a member of the New London County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Ellison died 10 October 2000 at the age of 82.

IPPOLITO, THOMAS L., New York Medical College, 1936. Dr. Ippolito practiced internal medicine and cardiology in Norwalk. He was a former chief of cardiology at Norwalk Hospital. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Ippolito died 6 September 2000 at the age of 88.

KAUFMAN, WILLIAM, University of Michigan Medical School, 1938. Dr. Kaufman received his doctorate in physiology in 1937. He practiced internal medicine in Bridgeport for over 20 years. He was a strong advocate of preventative medicine and vitamin therapy and received an award from the International Academy of Preventative Medicine recognizing his contributions to the field of vitamin therapy. Following his retirement from medical practice in 1964 he became the associate medical director of L.W. Frolich and Company of New York and later served as vice president and director of medical affairs of Klemtner Advertising of New York City. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Kaufman died 24 August 2000 at the age of 89.

RESNICK, HARRY, Johns Hopkins University School of Medicine, 1931. Prior to relocating to California, Dr. Resnick practiced medicine in Bridgeport and served on the staff of Bridgeport Hospital and St. Vincent's Hospital. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Resnick died 25 September 2000 at the age of 94.

ROBISON, ROY C., Yale University School of Medicine, 1936. Dr. Robison practiced obstetrics and gynecology in Stamford retiring in 1970. He served as vice president of St. Joseph's Hospital. He was a member of the Fairfield County Medical Association and the Connecticut State Medical Society. Dr. Robison died 12 September 2000 at the age of 91.

SHARON, HENRY J., Universitat Bern, Medizinische Fakultat, Switzerland, 1957. Dr. Sharon practiced surgery in Southington and New Britain retiring in 1990. He was senior attending surgeon at New Britain General Hospital and was assistant clinical professor of surgery at the University of Connecticut School of Medicine. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Sharon died 21 September 2000 at the age of 70.

WEISE, ELLWOOD C., JR., Jefferson Medical College, Thomas Jefferson University, 1947. Dr. Weise practiced dermatology in Stratford, retiring in 1992. He served as chief of the Dermatology Service at Bridgeport Hospital. Dr. Weise served several terms as president of the Section of Dermatology of the Connecticut State Medical Society. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society, and the American Medical Association. Dr. Weise died 29 September 2000 at the age of 77.

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Connecticut Medicine

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CONNECTICUT MEDICINE (ISSN 0010-6178), published monthly at 160 St. Ronan Street, New Haven, CT 06511. Subscription rate included in membership dues. Non-members: $25.00 per year. Periodicals postage paid at New Haven, CT and at additional mailing offices. POSTMASTER: Send address changes to Connecticut Medicine, 160 St. Ronan Street, New Haven, CT 06511-2312.

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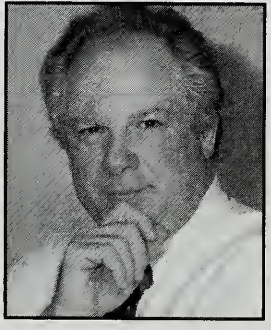

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Occupational Disease in Connecticut, 2000

TIM MORSE, PH.D. AND EILEEN STOREY, M.D.

ABSTRACT—This study was designed to establish the magnitude and distribution of reported occupational diseases in Connecticut based on 1998 data. Occupational disease is a reportable disease in Connecticut, yet is under-reported particularly for chronic conditions. The number of reported occupational diseases was 3,556 from workers' compensation reports, 1,444 from physician reports, and 5,510 from the Connecticut OSHA-Labor Department survey. Musculoskeletal disorders dominate the reports in all three databases, ranging from 46% to 62% of all illness reports. Skin conditions range from 8% to 18%; lung conditions from 9% to 16%; and infections from 1% to 18%. There are approximately 1.52 million workers in Connecticut, which results in a rate of 36.2 cases of occupational disease per 10,000 workers based on the Bureau of Labor Statistics figures. These conditions are broken down by type, industry, and cause. Improved identification of work linkages can lead to better treatment and job placement, as well as improved prevention.

Background

SURVEILLANCE of occupational disease is useful for understanding the magnitude of the problem, time and trends, policy, and emerging causes.[1,2] It is also useful for physicians and nurses to recognize higher risk populations and exposures so that patients can be diagnosed accurately, and proper interventions can be made.[3,4] Finally, it is important to recognize sentinel cases of occupational diseases so that investigations can be broadened to include co-workers who may be at risk for the same condition.

This is a report of the latest available data on occupational disease in Connecticut, utilizing the information gathered by the Bureau of Labor Statistics/ ConnOSHA, the Connecticut Workers' Compensation Commission, and physician reports gathered by the Connecticut Department of Public Health's Occupational Disease Surveillance System (ODSS).

Methods

Three databases were utilized in this report:

1. The Bureau of Labor Statistics (BLS) Annual Survey of Occupational Injury and Illness conducted by the Conn-OSHA division of the Connecticut Labor Department. This is an annual survey of employers who are required to keep records of work-related injury and illnesses under the Occupational Safety and Health Act. The 1998 survey in Connecticut consisted of 4,100 employers with a response rate of 92%. This is a stratified sample based on Standard Industrial Classification (SIC) and establishment size: all large employers are included in the sample, and variable samples of smaller establishments based on the SIC, with larger samples for historically more dangerous sectors.[5]
2. The First Report of Injury database of the Connecticut Workers' Compensation Commission. First Reports are compiled by all Connecticut employers who are covered by the Connecticut workers' compensation system (this excludes federal workers,

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TIM MORSE, PH.D., Assistant Professor, Department of Community Medicine and Division of Occupational and Environmental Medicine, University of Connecticut Health Center, Farmington, tmorse@nso.uchc.edu; EILEEN STOREY, M.D., M.P.H., Associate Professor and Division Chief, Division of Occupational and Environmental Medicine, University of Connecticut Health Center, Farmington.

self-employed, and some maritime workers). Employers provide the descriptions of illness and initial categories based on the American National Standards Institute (ANSI) coding scheme used by insurers. These reports are typically submitted to the employer's insurer, who then submits them to the Workers' Compensation Commission. These reports are submitted either electronically or in paper form, and are required for all injuries or illnesses that "result in incapacity for one day or more", although frequently medical-only claims are reported as well (Section 31-316 Connecticut General Statutes).

3. Physician reports under the Occupational Disease Surveillance System (ODSS). Physicians in Connecticut are required to report all known or suspected occupational diseases to the Connecticut Department of Labor, who then transmit the reports to the Department of Public Health for compilation and review (Section 31-40a, Connecticut General Statutes). This system also includes the registry of lead poisonings for adults, that requires laboratories to report blood lead levels of ten micrograms per deciliter or higher (Section 19a-110, Connecticut General Statutes).

Database work and coding for the BLS database was performed by the Connecticut Labor Department under the guidelines set up by the federal Bureau of Labor Statistics, and were reported to the authors by categories of diseases, with estimates based on relevant sampling fractions.

Workers' compensation data were given to the authors in electronic form based on a broad selection of categories for possible occupational diseases, including disease categories and common parts of body affected (ie, lungs, arms, hands, internal organs). A total of 29,823 records were provided. These records were then reviewed both electronically and by hand to eliminate traumatic injury claims, including all lower back injuries. In assessing the Workers' Compensation First Reports of Injury, a line by line review of injury descriptions, nature descriptions and codes, listed causes, and part of body were used to determine whether an injury or illness was described. The determination relied most heavily on the injury description and then on the other data fields in the order listed above. Records eliminated included conditions such as amputations, burns, contusion, crushing, dislocation, electric shock, fracture, hernia, laceration, multiple injuries, rupture, lower back conditions, acute injuries, chemical burns, punctures and scrapes (unless blood exposure or needle stick was indicated), dog bites, bee stings, and slips and falls. Records were coded for type of condition based upon the text description of the illness if it differed from the original coding. Illnesses were then grouped into the categories of Central Nervous System (CNS), Musculoskeletal (MSD), Hearing loss, Heart, Infectious, Lung, Mental Illness, Poison, Skin, Temperature, and Other. Employers were coded into Standard Industrial Classification codes by the Occupational Safety and Health statistics unit at the Connecticut Labor Department (the same coders as for the BLS survey).

Descriptions of disease are frequently not well defined in the BLS and workers' compensation databases, since they are defined by employers rather than physicians.[6] Due to incomplete descriptions in the workers' compensation database, it is often difficult to differentiate between some categories such as respiratory conditions and poisoning.

Occupational Disease Surveillance System (ODSS) data were received from physicians by the Connecticut Labor Department, coded for industry and occupation, and then forwarded to the Connecticut Department of Public Health (DPH) for data entry and further coding and cleaning. Physicians provide the diagnostic categories and ICD (International Classification of Disease) version 9 coding for the conditions they are reporting. This dataset was transmitted to the authors in electronic form. Certain categories of acute injury that are maintained by DPH were deleted for this analysis, including hernia, lower back conditions, acute injuries, burns, infections from acute injuries, bee stings, welders' flash, ear infection, concussion, conjunctivitis, chemical burns, and eye injury. Although by law reports are required from all physicians, in practice reports are received from a small minority of physicians, primarily in occupational health or industrial medicine clinics and some employers' medical departments. In 1998, 96 physicians from 35 different clinics or offices reported at least one case into the ODSS system.

This report will focus on the workers' compensation and ODSS datasets, since they provide more detailed information on diagnosis and cause than the available BLS data. Data were cleaned and statistics run utilizing Microsoft Excel 1997, Microsoft Access 1997, and SPSS version 9 on PC-based computers.

Results

Table 1 presents an overall summary of occupational diseases reported into the three databases by disease category.

Musculoskeletal disorders (MSD, also known by terms such as cumulative trauma disorder or repetitive strain injury) dominate the reports in all three databases, ranging from 46% to 62% of all illness reports. Skin conditions range from 8% to 18%; lung conditions from 9% to 16%;

Table 1.—Reports of Occupational Disease in Connecticut, 1998

Type of Disease	BLS/ConnOSHA	WC	ODSS
Musculoskeletal Disorders	3.398	1.634	754
Hearing loss		51	7
Lung	469	563	176
Poison	45	40	30
Lead			203
Skin	989	270	237
Physical agents	92	21	6
Other	517	23	15
Infectious		653	13
Mental		117	3
Heart		184	
Total	5.510	3.556	1.444

Sources: BLS: Bureau of Labor Statistics/ Connecticut OSHA
WC: CT Workers' Compensation Commission, First Report of Injury database
ODSS: Occupational Disease Surveillance System, Connecticut Departments of Public Health and Labor

and infections from 1% to 18% (infectious disease is classed under "other" in BLS). There are approximately 1.52 million workers in Connecticut, which results in a rate of 36.2 cases of occupational disease per 10,000 workers based on the BLS figures.

BLS captured the highest number of reports overall (5,510 reports), followed by workers' compensation (3,556) and finally ODSS (1,444).

Figure 1 shows the pattern of reported occupational diseases over the previous three years. Reports for 1998 increased for both the BLS and workers' compensation systems, but declined for the ODSS system. The increase was only 2% for the BLS system; this was accounted for by a similar rise in employment levels, leaving the rate of occupational disease unchanged at 3.45 cases per 1,000 workers. Reports increased in 1998 for respiratory conditions (60% increase), skin conditions (60%), and musculoskeletal disorders (2%). Reports decreased for "other illnesses" (–45%), physical agents (–39%), and poisonings (–36%).

Reports increased by 85% overall in the workers' compensation system; however, part of that increase appears to be a result of a change in the reporting system for the State of Connecticut. Reports increased for poisoning (567%), infectious disease and exposure (170%), heart and hypertension (159%), lung disease (149%), hearing loss (112%), MSD (74%), skin disease (34%), and mental illness (30%). Reports declined for central nervous system disorders (-56%) and temperature-related conditions (–14%).

There was an overall 7% decline in occupational disease in the ODSS physician reports. Declines were seen in lead poisoning (–42%) MSD (-20%), and poisoning (–6%). There were increases in lung disease (50%), and skin disease (18%).

Musculoskeletal Disorders (MSD)

Tendon-related conditions were the most common of the 754 MSD reported by physicians in 1998 in Connecticut, including tendonitis (24% of reported MSD), epicondylitis (17%), DeQuervains Syndrome (8%), and teno-

Figure 1.—Occupational Diseases, Connecticut 1996–1998

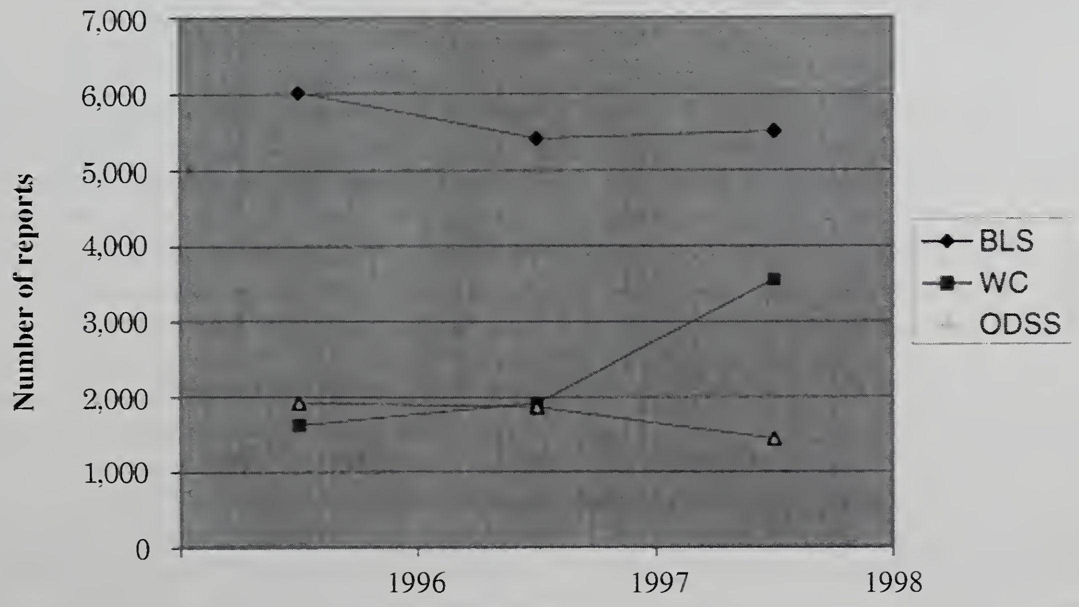

Table 2.—Reported Lung Diseases by Type, Workers' Compensation and Physician Reports (ODSS), 1998, Connecticut

Category	Workers Comp	ODSS
Respiratory	392	70
Asbestos exposure	76	7
Central nervous system	52	22
Asthma	34	27
Asbestos disease	5	16
Other chronic lung	4	
Hypersensitivity pneumonitis		18
Bronchitis		7
Silicosis		4
Sick building syndrome		3
Multiple chemical sensitivity		2

synovitis (8%). Carpal Tunnel Syndrome accounted for 22%, with 166 reported (439 were reported through workers' compensation).

Causes noted in workers' compensation reports included computer-related conditions (23%), lifting (10%), tool use (9%), machine use (7%), and assembly operations (4%). Dealing cards was specifically noted in 15 cases, underlining the rise in employment in the gaming industry.

Cases were most frequent in manufacturing (27% of all MSD cases), followed by services (20%), state government (17%), trade (13%), finance, insurance and real estate (9%), transportation and utilities (5%), local government (4%) and construction (3%). However, rates were highest for state government (48 per 10,000), followed by manufacturing (16), transportation and utilities (11) and finance, insurance and real estate (10). It should be noted, however, that the reporting for state government is different than for other employers, and may be more comprehensive.

Lung Diseases

Table 2 shows the number of cases of lung diseases reported to workers' compensation and to ODSS.

There were 34 cases of occupational asthma reported through workers' compensation and 27 reported through ODSS (including 7 Reactive Airways Dysfunction Syndrome). An indicator of the large under-reporting of cases under both systems is the fact that none of these 61 cases were reported to both of the two reporting systems.

Causes attributed to the asthma cases were varied, and included smoke, petroleum, kerosene and diesel fuel, carpet removal, indoor air pollutants, mold, metal working fluids, chemicals (including acrylates, alumbrite, chlorine, isocyanates, spray disinfectant, floor stripping, and tear gas), fumes (including hydrochloric acid), indoor air quality (including perfume), paint, cleaning chemicals (including solvents and citrus cleaner), dust (including sandblasting), smoke, and latex gloves.

Asbestos-related diseases remain prominent, although some reports are not clear enough to determine if the report is for actual disease or only recent exposures to asbestos. There were eight cases of asbestosis and eight cases of pleural plaques reported by physicians (in addition to seven cases that appeared to be exposure only). Workers' compensation reports included 76 cases of exposure, in addition to five cases of asbestosis (including one fatality). Asbestos disease is also known to be underreported based on earlier studies.[7]

The largest category of lung conditions is from acute exposure incidents, including respiratory conditions, and exposures that affect the central nervous system. Causes mentioned include

- Chemicals (including developer solution, air freshener, fungicide, insecticide, ozone, drain opener, pepper spray, fire extinguisher, saccharin used in a respirator fit test, salon chemicals)
- Solvents (formaldehye, perchlorethylene, paint thinner, fingernail polish remover, xylene, paint, turpentine, and MIBK)
- Cleaning chemicals (including bleach, toilet cleaners, wax strippers, carpet cleaners, ammonia, bleach/ ammonia combinations, dish detergent)
- Dust (including fiberglass insulation, soot from a furnace being cleaned, carpet removal, silicate, toner, paint powder, copper dust, paint chips, street sweeping)
- Gas, and
- Indoor air quality (poor ventilation, perfumes, carpeting, lack of oxygen in a manhole)

Poisonings

There were 40 poisonings reported in 1998 through workers' compensation, and 30 through the ODSS. In addition, there were 203 cases of adult lead poisoning reported through the lab reporting requirement. The two primary sources besides lead were carbon monoxide (16 ODSS and 8 WC reports) and mercury (8 ODSS and 21 WC). Ten of the mercury workers' compensation reports were from a single municipality that had exposures at a waste treatment plant, and seven others were from the state of Connecticut. The ODSS mercury exposures included three cases from custodians in a school and four cases from a lighting fixture manufacturing company.

There were 203 lead reports of adult cases with 20 or more micrograms per liter of blood. These included 34 cases in the 30–39 range, 16 between 40–49, three between 50–59, and four at 60 or over. The largest number of cases were from the painting and paper-hanging industry (22 cases), followed by general contractors (19), nondurable goods (16), ship building (8), electroplating (8), explosives manufacturing (8), rolling and drawing mills (6), auto repair shops (5), and auto part manufacturing (5). Laboratory reports of lead decreased 42% from 1997.

Infectious Disease

There were 653 reports related to infectious disease under workers' compensation, and 13 under ODSS. The workers' compensation reports include an unknown percentage of reports of exposure rather than disease, particularly for bloodborne diseases. 66% (n=430) of infectious disease reports were for bloodborne diseases, which include disease from, or exposure to, blood (292 reports), spit or other body fluids (63), human bites (59), and urine (19). Other infectious occupational diseases or exposures included TB (84 reports under workers' compensation), tick bites or Lyme Disease in outdoor workers (62 reports), chicken pox (16), scabies (11), and rabies (5). Industries most commonly associated with infectious diseases include health care (47%), state government, including corrections officers (41%), and local government (6%).

Skin Conditions

There were 270 reports of skin conditions under workers' compensation for 1998, and 237 under ODSS. The largest category of cause was poison ivy or other plant exposures (39% of all reports, n=105). The next largest category was conditions associated with glove use or latex (15% of reports, n=41). Chemicals, cleaners, and coolants or oils accounted for 11% (30 cases).

Stress and Heart Conditions

Workers' compensation had 184 reports of cases involving heart conditions, stroke, or hypertension, and an additional 117 reports for mental stress. Of the heart and hypertension cases, 25 described significant physical exertion at the time of onset, and 22 identified stress. Of all cases, 61 (33%) were State of Connecticut employees and 39 (21%) were employed by a municipality. Causes of mental stress cases included relationships with supervisors or co-workers (14 cases), violence (12 cases, included reports related to the Lottery Dept. shootings), harassment (six cases), and job demands or evaluations (six cases).

Additional details of occupational diseases in Connecticut can be obtained in the report prepared for the Connecticut Workers' Compensation Commission.[8]

Discussion

Connecticut employment has been shifting to a more service-oriented economy over the last decade, but there remain a large number of manufacturing jobs, accounting for 17% of employment in 1998. This diverse workforce is exposed to risks for both traditional occupational diseases such as lung disease and skin conditions from chemical exposures (asbestos, isocyanates, solvents) as well as service industry type occupational diseases such as computer-related musculoskeletal diseases, stress, and infectious disease exposures. An understanding of occupation is therefore critical for understanding and treating widely prevalent conditions that are frequently caused by or aggravated by workplace exposures.

The dominance of inhalation cases in the lung category differs from that reported under the SWORD program in Great Britain, which has only about 6% of lung diseases attributed to inhalation injuries.[9] The SWORD program is an active surveillance program where lung physicians are contacted to report lung diseases, which leads to higher reporting of conditions such as asthma (many of the acute respiratory conditions are treated in Emergency Departments or in primary care settings). Similarly, a Canadian active surveillance system was dominated by asthma, caused primarily by isocyanates, flour, and wood dust.[10] Kraut has found elevated asthma rates in teaching, electrical/electronic fabricating, installing and repairing, and laboring occupations in Canada.[11]

Asbestos exposure has been found on the national level to be associated for men with manufacturing, mineral and stone products, construction and material handling machines, electrical machinery, and services to dwellings and buildings, and (for women) schools, retail stores, and publishing and printing.[12] Asbestos exposure continues to be reported in Connecticut, primarily in remodeling and construction, which is adding to the burden of historical exposures in shipbuilding, gaskets, brake pads, and construction.

Calvert has recommended targeting high-risk occupations for occupationally related heart disease (identifying protective service workers, firefighters, machine operators, clergy, and [for blacks only] physicians, based upon a national mortality study) for improvement in work organization and promotion of healthy lifestyles.[13] Protective service workers and firefighters were prominent in the Connecticut reports, as well, and the national report lends credibility to legislation that has provided workers' compensation benefits for heart and hypertension to these workers.

The large decrease in reports of lead poisoning is encouraging, though exposures remain a problem on both the state and national levels.[14] Healthy People 2000 objectives were to eliminate all blood lead levels above 25 micrograms per deciliter,[15] but Connecticut had 57 cases above 30 for 1998. Seward noted excess lead levels among construction, battery manufacturing, smelting, and auto radiator repair workers on the national level.[15]

These databases do not adequately provide information on multifactorial, chronic conditions such as cancer that have been shown to have occupational linkages through national mortality and other studies.[16]

The data reviewed here demonstrate at least 5,500 occupational diseases annually in Connecticut, with differing trends over time depending on the database. Studies have shown that occupational diseases are grossly under-reported to all of the databases.[17] Morse and Storey note the large under-estimates for asbestos-related conditions.[7] Morse demonstrated very low overlap of MSD cases between workers' compensation and physician reports, with only 7% of estimated cases getting reported to workers' compensation.[18] Thus the reports noted here are under-estimates, particularly for chronic conditions such as cancer.

Although all Connecticut physicians are required to report known or suspected occupational diseases to the Connecticut Labor and Health departments, only a small fraction of physicians actually report these conditions, leading to a diminished capacity to track incidence and causes of conditions, as well as to detect and respond to clusters of disease. Copies of the reporting form may be obtained from the occupational health divisions at the Connecticut Labor or Public Health Departments.

Identification of patients with likely work-related conditions can be increased through the use of published SHEO's (Sentinel Health Events-Occupational), which is a list of 64 conditions and 140 agents that are known to have a higher likelihood of occupational linkages.[19] Improved identification of work linkages can lead to both better treatment and job placement, as well as improved prevention.

Acknowledgement

The authors would like to acknowledge the assistance of the Connecticut state agencies involved in the collection of the data used in this report. This includes Joe Weber and Grayson Gregory at the Labor Department, Mary Nevius, Bob Artus and Peter Miecznikowski of the Workers' Compensation Commission, and Juanita Estrada and Carolyn Jean Webb at the Department of Public Health.

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DRUG INFORMATION UPDATE: HARTFORD HOSPITAL

Cytochrome P-450 Drug Interactions and the Selective Serotonin Reuptake Inhibiting Antidepressants

CHARLES F. CALEY, PHARM.D. AND RICHARD J. SILVIA, PHARM.D.

Background

THE extensive use of selective serotonin reuptake inhibitors (SSRIs) (fluoxetine–Prozac®, sertraline–Zoloft®, paroxetine–Paxil®, fluvoxamine–Luvox®, citalopram–Celexa®) by the medical community is in part the result of an effort by practitioners to recognize and treat depressive and anxiety disorders. While this class of antidepressants has important therapeutic advantages over older counterparts, these newer medications are not without their own safety concerns. SSRI antidepressants, while nonlethal in overdose alone and having improved adverse effect profiles, have well-described effects on the cytochrome P–450 isoenzyme system. Cytochrome P–450 isoenzymes are important contributors to the metabolism of many medications; other important contributors may include flavin-containing mono-oxygenases (FMO), p–glycoprotein and the uridine diphosphate–glucuronosyltransferases (UGT 1A1, UGT 1A3/4, UGT 2B7).[1,2] Inhibition of cytochrome enzyme activity by SSRIs (and possibly by their metabolites) can have profound effects on the disposition of coprescribed medications. While enhanced efficacy of the affected drug may be possible, so too may be the risk for adverse effects. Given the extensive number of medications which may be coprescribed for patients who are receiving SSRI antidepressants,[3] it is important to be aware of potentially significant drug-drug interactions which may be related to SSRI use. The goal of this article is to review briefly the effects of SSRIs on cytochrome P-450 isoenzymes, and to present potentially significant drug-drug interactions. Table 1 describes how each of the cytochrome P-450 isoezymes are affected by the SSRIs; Table 2 presents a summary of substrates for specific isoenzymes.

Additional Considerations

Beyond the inhibiting effects of any drug on cytochrome P–450 isoenzymes, additional points of consideration are necessary when evaluating this type of pharmacokinetic drug-drug interaction. First is whether or not the isoenzyme in question is polymorphic. The functional implication of genetic polymorphism is the existence of (at least) two general types of metabolizing capabilities in patients. *Extensive metabolizers* typically constitute the majority of patients, *poor metabolizers* make up a minority of the population. Genetic polymorphism is known for CYP 2C9/19 and 2D6, and suspected for CYP 1A2 and 3A4.[4] A second consideration for evaluating cytochrome mediated pharmacokinetic interactions involves whether or not the inhibitory actions of a drug are dose-related; that is, whether the extent of inhibition increases with the dose. A final point involves being aware that elevated serum drug concentrations caused by cytochrome inhibition do not always manifest clinically in a patient. This underscores the importance of being aware of all possible drug-drug interactions in patients so that appropriate monitoring can be implemented and continued.

CYP–450 1A2

Of all the cytochrome isoenzymes, CYP 1A2 is perhaps the least affected by the SSRI antidepressants as a group. Fluoxetine, sertraline, paroxetine, and citalopram are each considered to be only mild inhibitors of 1A2;[3,5] fluvoxamine, though, is a potent inhibitor. Other known 1A2 inhibitors include cimetidine, ciprofloxacin, and the macrolide antibiotics. Substrates for this enzyme include theophylline, caffeine, cyclobenzaprine (Flexeril®), and R–warfarin; psychotropic drugs which are metabolized by 1A2 include: haloperidol, clozapine, diazepam, olanzapine,

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CHARLES F. CALEY, PHARM.D., B.C.P.P., Assistant Clinical Professor, Department of Pharmacy Practice, University of Connecticut, School of Pharmacy, Storrs, Clinical Psychopharmacology Consultant, Institute of Living, Burlingame Center for Psychiatric Research and Education, Institute of Living, Hartford; RICHARD J. SILVIA, PHARM.D., Psychiatric Pharmacy of Fellow, Institute of Living, Hartford, Adjunct Assistant Clincial Professor, University of Connecticut, School of Pharmacy, Storrs. The contribution of Robert Grejdus, R.Ph. at Hartford Hospital is acknowledged.

This series of Drug Information Updates from Hartford Hospital is provided by the Drug Information Center, Department of Pharmacy Services, Hartford Hospital. Editors: Robert A. Quercia, M.S., R.Ph., and Moses Sing Sum Chow, Pharm.D., Editorial Board: D. Drezner, M.D., G. Gousse, M.S., R. Quintiliani, M.D., J. Laut, M.D.

Table 1.—SSRI Inhibitory Potentials on Specific P450 Enzymes

SSRI	Cytochrome P450 Isoenzyme 1A2	2C9	2C19	2D6	3A4
Fluoxetine	+	++	+ to ++	+++	+
[Norfluoxetine]	+	++	+ to ++	+++	++
Sertraline	+	+	+ to ++	+	+
[Desmethylsertraline]	+	+	+ to ++	+	+
Paroxetine	+	+	+	+++	+
Fluvoxamine	+++	++	+++	+	++
Citalopram	+	0	0	0	0
[Monodesmethylcitalopram]	0	0	0	+	0

0 = minimal or zero inhibition, +, ++, +++ = mild, moderate, or strong inhibition; metabolites are listed under the parent compound. (Adapted from Greenblatt DJ, et al. *J Clin Psychopharmacol* 1999;19[suppl 1]:23S–35S.)

imipramine, and amitriptyline.[3,5] One reported fluvoxamine-mediated 1A2 interaction has been with theophylline; elevations in theophylline serum concentrations necessitate dose reductions of one third when this drug combination is used. Fluvoxamine also has a strong propensity to interact with warfarin. Not only does fluvoxamine inhibit the metabolism of R–warfarin, it also inhibits the metabolism of S–warfarin through the CYP 2C9 isoenzyme pathway.

CYP–450 2C Subfamily

At least five different genes have been identified for the 2C subfamily and 2C9 and 2C19 are the most common. An estimated 2% to 3% of Caucasians, and 15% to 25% of Asians are thought to be poor metabolizers through the 2C9 pathway.[4] Known substrates for the two 2C isoenzymes include: diazepam (2C9), losartan (2C9), omeprazole, phenytoin (2C9), S–warfarin (2C9), and topiramate (2C19). Fluoxetine, norfluoxetine and fluvoxamine cause moderate inhibition of CYP 2C9—fluvoxamine is considered to be the SSRI with the greatest inhibitory potency for 2C9. Sertraline, paroxetine, and citalopram cause mild inhibition of this isoenzyme. Other known inhibitors include amiodarone, cimetidine, fluconazole, fluvastatin, isoniazid, omeprazole, and zafirlukast. For CYP 2C19, fluvoxamine is a strong inhibitor and fluoxetine, norfluoxetine, sertaline, and desmethylsertraline are considered to be mild-to-moderate inhibitors.[3,5] Because of the potential for adverse outcomes, interactions with diazepam, phenytoin and S–warfarin should be noted. In particular is the potential for phenytoin toxicity when it is coprescribed with either fluoxetine or fluvoxamine. Phenytoin's metabolism exhibits dose-dependent kinetics which means that serum concentrations can increase disproportionately to standard dose increases (eg, a phenytoin dose increase from 300 mg/day to 400 mg/day resulting in a serum phenytoin increase from 15 mcg/mL to 30 mcg/mL). Like fluvoxamine, there appears to be a potential for fluoxetine to interact with S–warfarin (pharmacologically more active than the R–isomer) since it is an inhibitor of CYP 2C9.[3,5]

CYP–450 2D6

CYP 2D6 is a polymorphic isoenzyme in 5% to 8% of Caucasians and also in a lower percentage of African-Americans and Asians.[4] Fluoxetine, norfluoxetine, and paroxetine are strong inhibitors; sertraline, desmethysertraline, and fluvoxamine are mild inhibitors, and citalopram is reported to have minimal-to-no inhibition of CYP 2D6. Other inhibitors of the 2D6 isoenzyme include: amiodarone, cimetidine, haloperidol, propafenone, and ritonavir. Important 2D6 substrates include: several beta-blockers (eg, propranolol, timolol, metoprolol, bisoprolol), codeine, dextromethorphan, hydrocodone, meperidine, methadone, morphine, oxycodone, and tramadol. Many psychotropics are also metabolized by this isoenzyme, including the SSRIs.[3,5]

CYP–450 3A

CYP 3A4 is considered possibly to be a polymorphic isoenzyme; it is also responsible for the metabolism of many clinically important drugs.[4] Substrates for this isoenzyme are numerous and include: alprazolam, several calcium channel blockers, carbamazepine, clonazepam, cocaine, cyclobenzaprine, dextromethorphan, erythromycin, several HMG Co–A reductase inhibitors, rifampin, the protease inhibitors, and tamoxifen. Fluoxetine (through its primary metabolite norfluoxetine) and fluvoxamine are each considered to be moderately strong inhibitors of 3A4; sertraline and paroxetine are mild inhibitors, and citalopram has minimal-to-no inhibition of 3A4.[3,5]

Table 2: Clinically Notable CYP450 Substrates

Isoenzyme	**1A2**	**2C9/19**	**2D6**	**3A4**
Substrates	Caffeine Clozapine Cyclobenzaprine Diazepam Haloperidol Olanzapine Propranolol TCA's Theophylline R-Warfarin Verapamil	Angiotensin–2 Receptor Antagonists (eg, losartan) Diazepam NSAIDs Omeprazole Phenytoin S-Warfarin TCA's Topiramate	Chlorpromazine Clozapine Codeine Cyclobenzaprine Fluphenazine Haloperidol Hydrocodone Meperidine Methadone Metoprolol Morphine Oxycodone Perphenazine Propranolol Risperidone SSRI's TCA's Thioridazine Tramadol Trazodone Venlafaxine	Astemizole Cisapride Terfenadine Azole Antifungals Alprazolam Clonazepam Triazolam Ca Channel Blockers Carbamazepine Cyclobenzaprine Cyclosporine Estrogens Losartan Nefazodone Prednisone Protease Inhibitors Quinidine R-Warfarin Sertraline HMG Co–A Reductase Inhibitors Tamoxifen TCA's
Inhibiting SSRIs*	**Fluvoxamine** Fluoxetine Sertraline Paroxetine Citalopram	**Fluvoxamine (2C19)** *Fluvoxamine (2C9)* *Fluoxetine* Sertraline Paroxetine	**Fluoxetine** **Paroxetine** Sertraline Fluvoxamine Citalopram	**Fluvoxamine** **Fluoxetine** Sertraline Paroxetine

*SSRIs in bold are strong inhibitors of the isoenzyme indicated; italicized SSRIs are moderate inhibitors; nonbolded, nonitalicized SSRIs are mild inhibitors. (Adapted from Michalets EL: *Pharmacotherapy* 1998; 18:84–112 and Greenblatt DJ, et al: *J Clin Psychopharmacol* 1999; 19[suppl]:23S–35S.)

Monitoring and Treatment

As described above, SSRIs can inhibit the metabolism of many commonly used medications. While in some instances these interactions may not manifest clinically, it must still be considered when evaluating a medication regimen. If an SSRI drug interaction is encountered, several alternatives can be considered for either treating or avoiding adverse outcomes. Most importantly, however, is for the clinician to have an awareness of the potential interaction. If the interaction is unknown or not understood, then monitoring and correction cannot take place.

Serum drug concentrations/laboratory values.—Several of the medications which can potentially interact with SSRIs have some type of laboratory parameter that can be monitored for drug interaction effects.[3,5] Tricyclic antidepressants (TCAs) have relatively well-established serum concentration values. Theophylline, phenytoin, and carbamazepine also have serum concentrations established for therapeutic and toxic ranges. Warfarin should be monitored closely by measuring prothrombin time and INR values; likewise, serum CD4 and viral load concentrations should be monitored for interactions involving protease inhibitors. Although less widely accepted, some psychotropics, including clozapine, haloperidol, and methadone also have serum concentration values that can be measured. Even if not used to guide therapeutic effect, these serum drug concentration ranges may be useful to determine concentration changes due to SSRI-related cytochrome inhibition.

Dosage reduction/increase.—For many of these potential interactions, a decrease in the dose of the affected medication will be necessary because of the reduced clearance caused by the coadministered SSRI.[5] In some instances the combination may need to be avoided altogether, as was the case with astemizole, cisapride, and terfenadine, all of which have now been removed from the market in the U.S. Other potentially dangerous combinations may need to be avoided also, as guided by clinical presentation. An alternative antidepressant that does not have extensive cytochrome inhibitory effects (eg, mirtazapine, bupropion, citalopram) or changing to another medication that will not be affected by SSRI effects on the cytochrome system may need to be considered. Dosage adjustments may need to be large or small, as guided by clinical presentation or pertinent laboratory values. In some instances, reduction in the dose of the coprescribed SSRI may alleviate or reduce the problem, particularly in the case of sertraline that has been found to have more pronounced cytochrome effects at higher doses.[1,5] Reducing the SSRI dose may not always be possible if the patient's depression is not well controlled.

Close clinical monitoring for adverse effects.—For the majority of medications that interact with the SSRIs via the cytochrome system the only monitoring that can be performed is close observation for adverse effects/toxicity of the affected medication.[5] This begins with patient/family education about potential adverse effects of the medications involved. If the patient and/or their family are educated about adverse effects in this manner, then they will be identified more quickly and can therefore be corrected. Medications that have cardiovascular effects (TCAs, quinidine, theophylline, cyclobenzaprine, antihypertensives, etc.) may require periodic monitoring of EKGs, heart rate, blood pressure, etc.[3,5] Antipsychotics may require closer monitoring for EPS and movement disorders. Sedating medications may cause even more pronounced sedation and central nervous system depression. Not all drug interactions are negative however; some may be beneficial. Through cytochrome inhibition, SSRIs may permit lower doses of affected medications to be used. Since this effect is unpredictable, exact determinations of how the target medication is being affected are not possible. In addition, if the SSRI is discontinued then the dose of the affected medication must be reconsidered, something that may be overlooked.

Conclusions

The addition of the SSRIs to the spectrum of antidepressants has been an important step forward in the treatment of major depression. With an improved adverse effect and tolerability profile compared to older agents, SSRIs have become widely prescribed by psychiatrists and primary care providers. They do, however, have the liability of inhibiting the cytochrome P-450 system to varying degrees. In patients receiving medications for other illnesses, this can potentially be a major problem, as those medications may be affected by cytochrome inhibition. Dosages may need to be altered or medications changed. Patients need to be educated and closely monitored for adverse effects of any potential drug interactions. SSRI-related cytochrome drug interactions must be guarded against when SSRI drug therapy is initiated, dosages altered, or discontinued, as well as with any changes in the affected medication. Through close monitoring and watchfulness over medication regimens involving SSRI's and medications metabolized through the cytochrome P-450 system, adverse drug events due to a drug interaction hopefully can be avoided.

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Incidence of Pap Test Abnormalities Within Three Years of a Normal Pap Test—United States, 1991–1998

DECLINES in cervical cancer incidence and mortality reported in the United States since the 1950s have been attributed to early detection and treatment of precancerous and cancerous lesions through the use of the Papanicolaou (Pap) test.[1] More than 50 million Pap tests are performed each year[2]; however, guidelines about the frequency of testing in women with a history of normal test results are inconsistent.[3–5] To determine the incidence of cervical cytologic abnormalities following a normal Pap test, 1991–1998 data from the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) were analyzed for this report.[6] The findings indicated that within three years of a normal Pap test result severe cytologic abnormalities were uncommon, and incidence rates were similar among women screened one, two, and three years following a normal Pap test.

For each woman, CDC received a report that included demographic characteristics. Pap test results, diagnostic procedures, and histopathologic results.[6,7] To be eligible for the analysis, women were required to have had a first NBCCEDP Pap test reported as normal during 1991–1998, and at least one subsequent Pap test performed within the following nine to 36 months. Of 620,063 women tested during 1991–1998, 128,805 (20.8%) met the criteria for eligibility. Results of Pap tests were reported using Bethesda System categories: normal; infection, inflammation, or reactive changes; atypical squamous cells of undetermined significance (ASCUS); low-grade squamous intraepithelial lesion (LSIL); high-grade squamous intraepithelial lesion (HSIL); "suggestive of squamous cell carcinoma"; and "other" (eg, glandular atypia and atypical endocervical glands).

Incidence rates of Pap test interpretations were calculated by dividing the number of women with each test result by the number of women retested within each age group (<30, 30–49, 50–64, and ≥65 years) and time interval (9–12, 13–24, and 25–36 months). Incidence rates were age-adjusted using the age distribution of the 1996 NBCCEDP population. Ordinary least-squared regression was used to evaluate the trend of increasing time between the first Pap test on the age-adjusted incidence of ASCUS, LSIL HSIL, and suggestive of squamous cell carcinoma.

The average age of women included in the analysis was 48.9 years (range: 12–96 years); 73,631 (57.0%) were non-Hispanic whites, 22,672 (17.6%) were Hispanics, 17,314 (13.4%) were non-Hispanic blacks, 10,983 (8.5%) were American Indians/Alaska natives, 3,070 (2.4%) were Asians/Pacific Islanders, and 1,135 (0.9%) were categorized as "other" or "unknown." The mean time between the first and second test was 15.7 months. Approximately 121,576 (94.4%) of the 128,805 second test results were interpreted as normal or infection, inflammation, or reactive changes. The incidence rate of the second test results interpreted as HSIL and suggestive of squamous cell carcinomas was 66 per 10,000 women aged <30 years, 22 per 10,000 women aged 30–49 years, 15 per 10,000 women aged 50–64, and 10 per 10,000 women aged ≥65 years (trend test, $P<0.001$). Overall, as age increased, the incidence of ASCUS and LSIL also decreased (trend test, $P<0.001$, each category).

The age-adjusted incidence of results interpreted as LSIL increased over time (trend test. $P=0.01$) (Table 1). The incidence of ASCUS, the most common cytologic abnormality, did not change significantly over time ($P=0.36$). The differences in the age-adjusted incidence of HSIL and suggestive of squamous cell carcinoma for the time intervals also were not significant ($P=0.42$).

Reported by: G.F. Sawaya, M.D., K. Kerlikowske, M.D., G. Gildengorin, Ph.D., A.E. Washington, M.D., University of California, San Francisco. Division of Cancer Prevention and Control, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: The U.S. Preventive Services Task Force recommends Pap test screening at least every three years until age 65 years.[5] The American Cancer Society guidelines suggest that screening less frequent than annually may be adequate for Pap testing in women with a history of three negative annual Pap tests,[3] and the American College of Obstetricians and Gynecologists recommends annual Pap tests for most women.[4]

Reprinted from the *Morbidity and Mortality Weekly Report*, 10 November 2000; vol.49, no. 44. Centers for Disease Control (CDC), National Institute for Health (NIH).

Table 1.—Age-adjusted incidence rate* of cytologic abnormalities, by time from normal Papanicolaou (Pap) test—National Breast and Cervical Cancer Early Detection Program, United States, 1991–1998

No. months since normal Pap	Cytologic interpretation of Pap test		
	ASCUS†	**LSIL**§	**HSIL**¶ **and suggestive of squamous cell carcinoma**
9-12	377	107	25
13-24	373	125	29
25-36	415	141	33
P for trend	*0.36*	*0.01*	*0.42*

*Per 10,000 women.
†Atypical squamous cells of undetermined significance.
§Low-grade squamous intraepithelial lesion.
¶High-grade squamous intraepithelial lesion.

The difference in screening annually, biennially, or triennially is substantial in the number of tests performed and in the public health implications. In this analysis, women screened one, two, and three years after a normal Pap test had similar risk for developing HSIL and suggestive of squamous cell carcinoma. Other studies have indicated clinically insignificant additional protection in testing yearly compared with triennially.[8] However, low-grade abnormal Pap results (eg, ASCUS and LSIL) constituted >95% of the cytologic abnormalities after the first normal results. The clinical significance of these abnormalities is unclear. Women who were screened annually rather than less frequently might have worse health outcomes if low-grade results of undetermined clinical importance lead to further testing and unnecessary patient morbidity and anxiety.[9,10]

The findings in this report are subject to at least four limitations. First, the database used was intended for descriptive statistics and not for hypothesis testing; data were limited to a few variables. Second, NBCCEDP serves low-income and uninsured women; results may not be generalizable to other groups. However, low-income and uninsured women usually are at greater risk for developing cervical neoplasia than women with higher incomes; therefore, higher-income women should be less likely to exhibit higher rates during the three-year interval examined in this study. Third, women may have received Pap testing outside the program during the time between the first and subsequent Pap tests; however, this probably occurred in only a few women. Finally, women who frequently get screened, specifically within one year after Pap test, might be low-risk women concerned about their health or high-risk women with histories of abnormal Pap tests who have been told to get annual tests. Other risks for cervical cancer in these women and whether these risks affected the findings in this study are unknown. NBCCEDP receives data from many cytopathology laboratories and clinical settings. The findings in this study may better represent actual clinical settings than the findings in a controlled trial.

CDC is working with state health departments to use this information as a basis for cost-effective strategies to reach women who have not received screening services for cervical disease. CDC will assist NBCCEDP in assessing program-provider practices, modifying patient recall systems, and developing professional and public education strategies to improve patient-provider decision making. Further research is needed to clarify the benefit and harm related to frequency of subsequent Pap testing in women with normal results.

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THE MEDICAL LETTER

Drugs for Prevention and Treatment of Postmenopausal Osteoporosis

Many drugs are now marketed for prevention and treatment of postmenopausal osteoporosis. All regimens should include an adequate intake of calcium and vitamin D.

Drug	FDA-Approved Indication	Dosage	Cost[1]
ESTROGENS[2]			
Estradiol, transdermal	Prevention		
Climara (Berlex)		6.5 cm^2 patch weekly (0.025 mg/day)	$ 25.84
Estraderm (Novartis)		10 cm^2 patch 2/week (0.05 mg/day)	24.40
Vivelle (Novartis)		11 cm^2 patch 2/week (0-0375 mg/day)	25.28
Estradiol, micronized–generic		0.5 mg PO daily	7.56
Estrace (Apothecon)			12.04
Gynodiol (Fielding)			8.12
Esterified estrogens		0.3 mg PO daily	
Estratab (Solvay)			13.16
Menast (Monarch)			7.00
Estropipate – generic		0.75 mg PO daily	10.36
Ogen (Pharmacia & Upjohn)			20.44
Conjugated equine estrogens			
Premarin (Wyeth-Ayerst)		0.625 mg PO daily	16.52
ESTROGEN COMBINATIONS[2]			
Estradiol/norgestimate			
Ortho-Prefest (Ortho-McNeil)		1 mg daily x 3 days, followed by 1 mg/0.09 mg daily x 3 days, repeated	24.08
Estradiol/norethindrone acetate			
Activella (Pharmacia & Upjohn)		1 mg/0.5 mg daily	27.72
femhrt (Parke-Davis)		5 µg/1 mg daily	23.80
Conjugated equine estrogens/medroxyprogesterone			
Premphase (Wyeth-Ayerst)		0.625 mg PO daily days 1–14, then 0.625 mg/5 mg PO daily days 15–28	23.80
Prempro (Wyeth-Ayerst)		0.625 mg/2.5 mg PO daily	25.48
BISPHOSPHONATES			
Alendronate – *Fosamax* (Merck)	Prevention	5 mg PO daily	54.88
	Treatment	10 mg PO daily	54.88
Risedronate – *Actonel* (Procter & Gamble)	Prevention, Treatment	5 mg PO daily	50.12
SELECTIVE ESTROGEN RECEPTOR MODULATOR			
Raloxifene – *Evista* (Lilly)	Prevention, Treatment	60 mg daily	56.56
CALCITONIN			
Calcitonin-salmon – generic	Treatment	100 IU SC or IM every other day	217.70
Miacalcin Injection (Novartis)		100 IU SC or IM every other day	252.42
Miacalcin Nasal Spray (Novartis)		200 IU intranasal daily	61.35[3]

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1. Average cost to the patient for 28 days' treatment based on data from retail pharmacies nationwide provided by Scott-Levin's *Source*™ *Prescription Audit* (SPA), July 1999-August 2000.
2. For a woman with an intact uterus, a progestin must be added to estrogen therapy. Oral estrogens are usually given continuously or in a cyclic regimen.
3. Cost of two 2-ml bottles with at least 14 doses each based on AWP listings in Drug Topics *Red Book Update,* Sept 2000.

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BONE DENSITOMETRY—Typically, the need for drug therapy is established by bone densitometry tests. Bone densitometry (*Medical Letter,* 38:103, 1996) is generally reported in terms of standard deviations (SD) from mean values in young adults (T score) and agematched controls (Z score). The World Health Organization has defined normal bone mineral density (BMD) for women as a value within one SD of the young adult mean. Values 1 to 2.5 SD below the mean are defined as osteopenia, and those more than 2.5 SD below the mean are defined as osteoporosis. The risk of fracture increases with age and with each SD below the young adult mean.

CALCIUM AND VITAMIN D—In adults more than 65 years old, a high calcium intake combined with vitamin D can increase BMD and reduce the incidence of fractures. The Institute of Medicine of the National Academy of Sciences recommends a daily intake of 800 mg of calcium for children four to eight years old, 1,300 mg for children nine to 18, 1,000 mg for adults 19 to 50, including pregnant and lactating women, and 1,200 mg for those over the age of 50, including those taking estrogen (*Medical Letter* 2000; 42:29). Vitamin D is necessary for optimal calcium absorption. The recommended minimum daily requirement of vitamin D is 200 IU for adults younger than 50 years old, 400 IU for adults 51 to 70 years old, and 600 IU for those over 70. Some experts recommend a vitamin D intake of 800 IU/day for all adults (Utiger RD: *N Engl J Med* 1998; 338:828).

ESTROGEN—Lack of estrogen after menopause is associated with rapid bone loss due to increased osteoclast activity and bone resorption. A three-year, prospective double-blind trial in 875 postmenopausal women (mean age 56) found that hormone replacement therapy increased spine BMD by 3.5% to 5.0% and hip BMD by 1.7%, compared to an average loss of 1.8% and 1.7% of spine and hip BMD with placebo (The Writing Group for the PEPI Trial: *JAMA* 1996; 276:1389). When estrogen is discontinued, rapid bone loss resumes.

Retrospective studies of estrogen in women with established osteoporosis have reported a decrease in the incidence of spine and hip fractures (NIH Consensus Conf, March 27, 2000; http://odp.od.nih.gov/consensus/cons/cons.htm). No large prospective studies have shown that estrogen prevents fractures. In one 12-month double-blind trial in 75 women with established osteoporosis, women using transdermal estrogen had eight vertebral fractures, compared to 20 in women on placebo (Lufkin EG, et al: *Ann Intern Med* 1992; 117:1). One cohort study also found a reduced risk of fracture in women taking estrogen, including those who were more than 75 years old (Cauley JA, et al: *Ann Intern Med* 1995; 122:9).

Adverse Effects—Adverse effects of estrogen therapy include bloating, breast tenderness, and uterine bleeding. Women who have an intact uterus must also take a progestin to avoid an increased risk of endometrial cancer. Long-term estrogen use increases the risk of thromboembolism and might increase the risk of breast cancer (Willett WC, et al: *JAMA* 2000; 283:534).

BISPHOSPHONATES—These nonhormonal agents with a high affinity for bone inhibit osteoclast function, decreasing bone resorption.

Alendronate (*Medical Letter* 1996; 38:1), an oral bisphosphonate, is approved by the FDA for prevention (5 mg daily) and treatment (10 mg daily) of osteoporosis. Once-weekly use of 35 mg for prevention and 70 mg for treatment may be approved soon (Schnitzer T, et al: *Aging Clin Exp Res* 2000; 12:1). A prospective study of alendronate 5 mg/day given for two years to 1,174 postmenopausal women without osteoporosis who were less than 60 years old found 3.5% and 1.9% increases in BMD at the lumbar spine and hip with the drug, and decreases in BMD with placebo (Hosking D, et al: *N Engl J Med* 1998; 338:485).

In more than 4,000 postmenopausal women aged 54 to 81 years with low bone mass and no history of vertebral fracture, alendronate 5 mg daily for two years followed by 10 mg daily for two more years increased BMD at all sites and decreased the number of symptomatic fractures from 312 with placebo to 272 with the drug; this decrease was not statistically significant (Cummings SR, et al: *JAMA* 1998; 280:2077). A third prospective trial in more than 2,000 postmenopausal women with low bone mass and at least one vertebral fracture at baseline found that over 36 months new symptomatic fractures at any site occurred in 183 women taking placebo and in 139 taking alendronate. Hip fractures occurred in 22 women on placebo and 11 taking alendronate (Black DM, et al: *Lancet* 1996; 348:1535).

Risedronate—Risedronate, a new oral bisphosphonate, was recently approved by the FDA for prevention and treatment of osteoporosis in postmenopausal women. In a two-year study in 111 postmenopausal women (mean age 51) with normal lumbar spine BMD, patients taking 5 mg per day showed a 1.4% gain in spine BMD and a 2.6% increase at the femoral trochanter, compared to decreases at both sites with placebo. One year after stopping treatment, lumbar spine BMD was 2.3% lower than baseline in the patients who had taken daily risedronate and 5.6% lower in those who had taken placebo (Mortensen L, et al: *J Clin Enclocrinol Metab* 1998; 83:396).

A three-year trial in about 1,000 postmenopausal women (average age 69) with low bone mass and at least one vertebral fracture found that the incidence of new vertebral and nonvertebral fractures was 11% with 5 mg of risedronate daily and 16% with placebo (Harris ST, et al: *JAMA* 1999; 282:1344). A three-year controlled trial in more than 5,000 high-risk elderly women with osteoporosis found that risedronate 2.5 or 5 mg decreased the incidence of hip fracture compared to placebo (McClung M, et al: *Osteoporosis Int* 2000; 11:S207).

Adverse Effects—Alendronate and risedronate can cause heartburn, esophageal irritation, esophagitis, abdominal pain, diarrhea, and other adverse gastrointestinal effects. Calcium supplements taken at the same time may interfere with absorption of bisphosphonates. To ensure adequate absorption and avoid esophageal injury, either alendronate or risedronate must be taken after an overnight fast, while in an upright position, along with 8 oz of plain water. After taking the drug, the patient must consume nothing else for at least 30 minutes and avoid lying down. The long-term effects of these drugs are unknown.

RALOXIFENE—Raloxifene (*Medical Letter* 1998; 40:29) is a selective estrogen receptor modulator (SERM) with estrogen-like effects on bone and cardiovascular tissue and antiestrogen effects on the uterus and breast. One clinical trial showed a marked reduction in the risk of breast cancer in postmenopausal women with osteoporosis taking raloxifene (Cummings SR, et al: *JAMA* 1999; 281:2189). In another trial, 601 postmenopausal women (average age 55) without osteoporosis took raloxifene or placebo daily for two years. The women receiving active treatment had statistically significant increases in lumbar spine and hip BMD, while bone mass decreased in those taking placebo (Delmas PD: *N Engl J Med* 1997; 337:1641).

In 7,705 postmenopausal women with established osteoporosis, lumbar spine, and femoral neck BMD after three years were 2.1% to 2.7% higher with raloxifene than with placebo. Among women taking 60 mg and 120 mg of raloxifene, 6.6% and 5.4% had new vertebral fractures, compared to 10.1% in the placebo group. The risk of nonvertebral fractures, however, was about the same with raloxifene as with placebo (Ettinger B, et al: *JAMA* 1999; 282:637).

Adverse Effects—Hot flashes and leg cramps can occur in patients taking raloxifene. Like estrogens, raloxifene increases the risk of thromboembolic events. Whether raloxifene could, like tamoxifen *(Nolvadex)*, increase the risk of uterine cancer remains to be established.

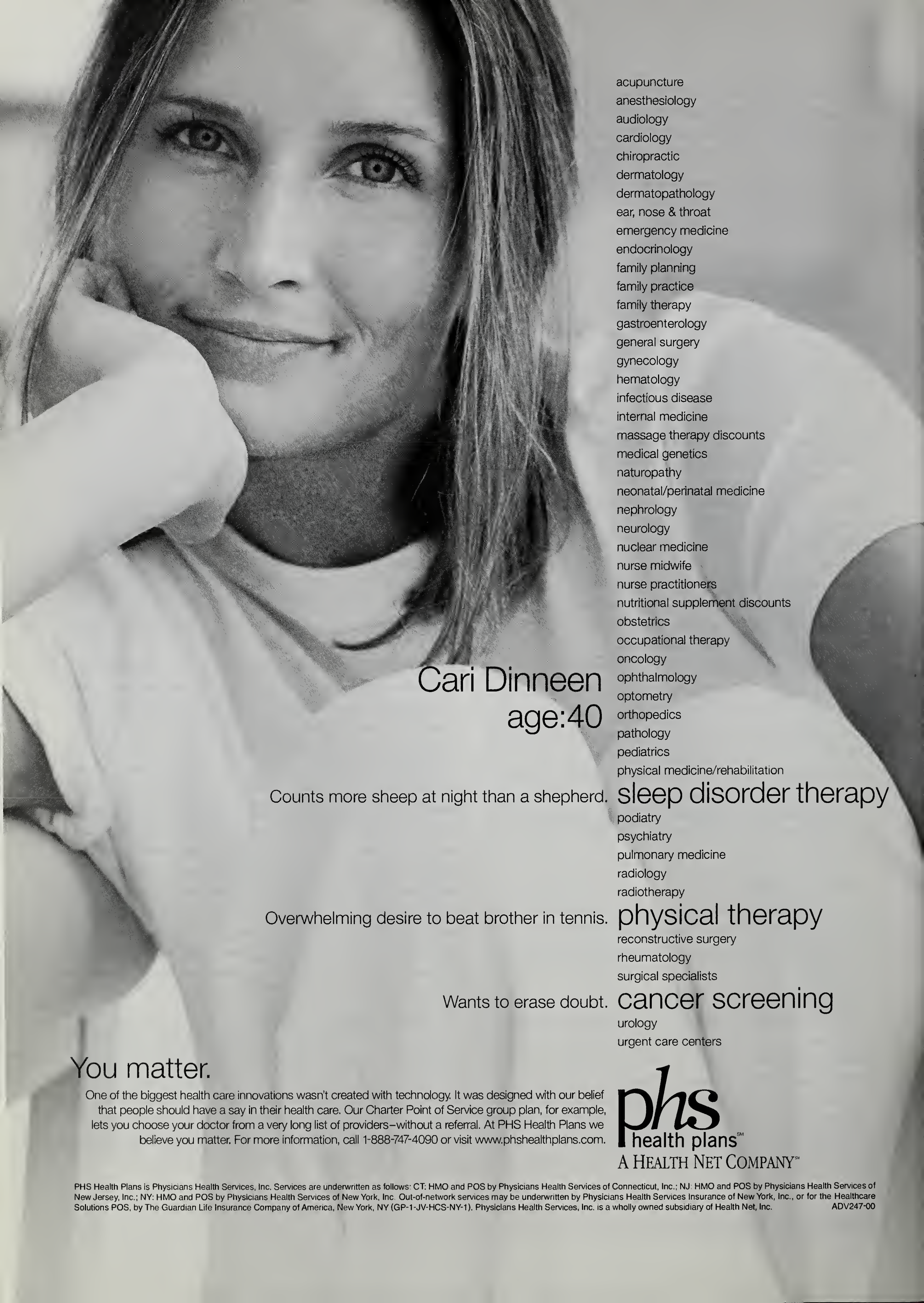
CALCITONIN—This peptide hormone decreases bone resorption by inhibiting osteoclast function, and may also have an analgesic effect. A controlled five-year trial in 1,200 women with osteoporosis found new vertebral fractures in 51 of 287 (18%) receiving a 200 IU dose of salmon calcitonin nasal spray once daily and in 70 of 270 (26%) receiving a placebo. Fracture reductions with a higher dose of 400 IU were not statistically significant (Chestnut CH, III, et al: *Am J Med* 2000; 109:267). This study has been criticized because the investigators were aware of bone density results during the study and 59% of the women not only did not complete the study, but also were lost to follow-up (Cummings SR, Chapurlat RD: *Am J Med* 2000; 109:330). The effect of calcitonin on sites other than the spine has been equivocal.

Adverse Effects—Subcutaneous calcitonin injection has been used for nearly 30 years without serious adverse effects. Nausea and flushing occur commonly. Rhinitis and occasional epistaxis have occurred with the intranasal preparation.

COMBINATION THERAPY—In one double-blind trial, 425 postmenopausal women with low BMD were treated with placebo, alendronate 10 mg, estrogen replacement, or combined estrogen-alendronate therapy for two years. The mean increase in spine BMD was greatest with combination therapy (8.3% compared to a 6% gain in both monotherapy groups, and an 0.6% loss with placebo). The increases in proximal femoral bone density with alendronate, estrogen, alendronate-estrogen, and placebo were 4.0%, 3.4%, 4.7%, and 0.3%, respectively (Bone HG, et al: *J Clin Endocrinol Metab* 2000; 85:720). Combinations of estrogen and calcitonin have also had beneficial additive effects on BMD. Whether combination therapy leads to a greater reduction in the risk of fractures remains to be established.

OTHER DRUGS—Recently, three case-control studies found a lower risk of fractures in older patients who took HMG-CoA reductase inhibitors (statins) to lower serum lipid levels (Meier CR: *JAMA* 2000; 283:3205; Wang PS, et al: *JAMA* 2000; 283:3211; Chan KA: *Lancet* 2000; 355:2185). Previous studies showed that statins enhanced new bone formation in vitro and in rodents (Mundy G, et al: *Science* 1999; 286:1946). Parathyroid hormone (PTH) increases bone density by stimulating bone formation. A prospective placebo-controlled trial in 1637 women with severe postmenopausal osteoporosis and at least one vertebral fracture found about one third the incidence of vertebral fractures and about half the incidence of non-vertebral fractures in women who took recombinant human PTH for 21 months (Neer RM, et al: presented at the 82nd Annual Meeting of The Endocrine Society, 2000).

CONCLUSION—Alendronate, risedronate, and raloxifene are effective in preventing vertebral fractures in postmenopausal women with osteoporosis. Estrogen may also be effective in preventing vertebral fractures, but large prospective controlled trials are lacking. Only alendronate and risedronate have been shown to prevent hip fractures. The benefits of calcitonin in preventing fractures are less well established.



acupuncture
anesthesiology
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ear, nose & throat
emergency medicine
endocrinology
family planning
family practice
family therapy
gastroenterology
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gynecology
hematology
infectious disease
internal medicine
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nephrology
neurology
nuclear medicine
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age:40

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Commentary

The Future of Managed Care in Connecticut

In the five years our organization has been actively engaged in managing risk contracts, I have observed several major shifts in the health insurance landscape. In the 1980s Connecticut doctors led the way, forming two HMOs, M.D. HeathPlan and Physicians Health Services (PHS). These first generation HMOs placed doctors at risk for a portion of their charges with a "withhold" of 10% to 20% of payments held against certain performance goals. Unfortunately for a variety of reasons, including an almost complete lack of medical cost management, doctors lost the impetus and eventually sold both of these plans.

Shifting Risk to Providers

During the early 1990s insurers found themselves unable to control double-digit health-care inflation and decided to shift the risk of providing care under a budget directly to the providers. This national trend moved the Connecticut market to second generation HMOs in which provider groups were put at risk for a large piece of the health-care dollar with "global risk" contracts. HMOs sought "deep pockets" to accept global risk contracts much in the model of the California independent practice associations (IPAs) and integrated delivery systems of the early 1990s.

Shifting into Risk-Bearing Groups

Connecticut doctors either actively or passively formed into risk-bearing groups under four different models: Physician Hospital Organizations (PHOs), large group practices with outside capital such as ProHealth in the Hartford area, Independent Practice Associations managed by national physician management companies such as the Physicians Choice-Phymatrix group in the Fairfield area, and self-managed IPAs such as our own Primary Care Physicians Corporation in New Haven County.

PHOs—The Most Popular Model

Largely because most Connecticut hospitals enjoy local monopolies the insurers quickly discovered that the only way to gain favorable hospital rates was to deal with a PHO, and for that reason PHOs were by far the most popular model. From the hospital point of view, independent doctor groups and national physician management companies were a threat to the hospitals' perceived role as the center of the health-care market. Initially there was fierce competition for global risk contracts, some of which was driven by fear of loss of hospital control and some by a perceived financial opportunity.

Hospitals Take Lead

There were two important ramifications of this situation: 1) Much of the impetus and organization for Connecticut risk contracting came from hospitals and not doctors. 2) Significant financial risk was assumed without adequate management infrastructure. Most of these contracts were negotiated by hospital lawyers, who did not have much experience with risk contracts. IPA and PHO boards were formed primarily along political lines. PHO medical directors were almost uniformly inexperienced and the individual IPA members were largely uninvolved and had little incentive to control costs. To make matters much worse the HMOs were unable to provide adequate medical management data for the well-meaning IPA committees to use to control costs.

PHOs, IPAs, and Hospitals Lose Money

For a while everyone seemed content with the new arrangements. The hospitals and the doctors kept seeing the same patients, the medical directors held meetings and tried to figure out how to manage risk, and the HMOs kept providing no data. It takes over six months after the year end of a contract to settle the financials. Thus it took about two years for Connecticut PHOs and IPAs to realize they were losing money on risk contracts. The coup de grace was the HMOs' decision to enter the lucrative new government risk business, managed Medicare and Medicaid. Managed Medicare in particular was a disaster. Savvy seniors with medical problems and high prescription drug costs quickly figured out that they could save some money joining these plans, and there was thus a self-selection of sicker patients in Connecticut managed Medicare plans. During the last two years of the millennium Connecticut PHOs and hospitals lost millions of dollars in Medicare and Medicaid risk contracts.

The Market Turns

Now the market has turned. IPAs and PHOs around the state are getting out of the risk business. The HMOs, with a few exceptions, have dropped out of managed Medicare. It is not clear who will pay the millions of lost dollars, the hospitals or the physicians. At least one HMO has decided to bill the doctors. And sadly, no one really thinks Connecticut doctor groups are any better at "managing care" than they were five years ago.

Lessons Learned

What lessons can we learn from this experience and where are we going next?

1.—*Data is essential.* It is impossible to effectively manage a medical budget without data. Unfortunately, most of the insurers cannot supply the data or the data they supply is simply wrong. In order to analyze performance one needs accurate and up to date information about hospital and nursing home admissions, complete analysis of outpatient expenses by doctor, analysis of ancillary facility charges, and pharmacy profiles. Insurance claims payments systems were just not designed to provide utilization information easily, and this type of data analysis was never a high priority for any local insurer. In my experience one in 10 insurance companies comes close to providing usable and timely information. We have learned that the only way to get utilization data is to hire an independent data analysis firm to provide the IPA with management reports. This, of course, is an expense to the IPA since no HMO will admit their incompetence at data management.

2.—*HMOs do not manage care; they try to manage cost by rationing care.* Most HMO initiatives are purely efforts to control cost by cutting or discounting services. In our negotiations with HMO representatives, they try to keep most of the premium associated with medical management. They refuse to delegate medical management to IPA medical directors and UR/QA committees, using the excuse that we do not meet the National Committee on Quality Assurance (NCQA) guidelines. Yet most HMO medical management initiatives are shallow and inefficient. Disease management programs are sophomoric. Costs are really controlled by putting red tape in the way of care, by down coding physicians' services, and by arbitrary denials of service. Referral forms and long telephone delays for authorizations are part of an orchestrated effort to block efficiency. These policies can squeeze only so much from the medical dollar and they do nothing to improve patient care. We have learned that in the future IPAs must take over medical management initiatives and develop meaningful utilization review techniques that add value to medical care.

3.—*A small percentage of doctors make matters much worse.* Most physicians are fed up with the whole managed care concept, but a surprisingly large majority tries to play by the rules and help the IPA control costs. Unfortunately some doctors excessively game the system. All of us who have had a chance to review medical claims have learned that 5% to 10% of our colleagues consistently churn or up code. If an IPA wants to make any progress or maintain its credibility this issue must be addressed. For example, the CMS-IPA recently increased payment withholds from 20% to 40% for fewer than10 PHS participating doctors who were considered guilty of abusive billing practices. HMOs point to such guilty physicians and tar the whole medical profession as greedy and abusive. Doctors traditionally have been reluctant to police their peers. This must change if we are to avoid government and insurance bureaucrats who will condemn all of us along with the guilty few. IPAs must back meaningful measures to control doctors who abuse the system.

4.—*Don't take risk for something you cannot control.* Global risk means responsibility for all medical costs. This may include out-of-network care given in another state, pharmacy costs, chiropractors, podiatrists, ambulance rides, and the like. These costs add up quickly, and Connecticut IPAs have no ability to manage them. Individuals skilled in medical contract subtleties must carefully negotiate all unmanageable risk.

5.—*HMOs add no value to health care; they reprice health care.* At the basic level an HMO uses its bargaining power to discount medical services. Then its marketing machine sells as much insurance as possible at as high a price as possible and it pays out claims as slowly as legally possible. Everything else is window dressing. When viewed in this light all the picayune rules and red tape and denied claims make good business sense. Now that physician groups are becoming wary of risk and health-care costs are again rising rapidly, HMO executives need to find another way of making money. It is my understanding, after many conversations with HMO representatives, that the essence of their grand strategy over the next few years is to continue to ratchet down physician fees. Hospitals have local monopolies and the insurers cannot budge their per diem rates. The lesson here is that if we don't work together as organized and economically integrated doctor groups the HMOs will bury us individually. A caveat I must add is that we cannot simply think of all HMO executives as part of a vast Evil Empire. Many are well meaning, but have a job to do. I haven't seen much "thinking outside of the box" in the insurance world. But some local insurance leaders are willing to work together with physician groups to figure out how to get the job done. We have to be organized and proactive to work with these enlightened few.

6.—*Running an IPA and accepting and managing risk contracts is a serious full-time business.* It cannot be done as a part-time hobby of the politically correct local hospital physician. Physicians, case managers, administrators, committee members, lawyers, and the rest of the team must be experienced and professional. Many of the unprofessional IPAs and PHOs are going or have already gone in the red ink tide. Working with HMOs is hard and difficult work. All the resources are on the other side of the table. Doctors have to understand this position and be willing to work together to get the job done. They must also be willing to lend the financial support necessary to capitalize and run an IPA. Lastly, and crucially, they must be willing to support those who work for them.

Applying Lessons to the Future

How do we take these lessons and apply them to the future? As we look towards the next five years it's difficult to predict the evolution of managed care. The public in general is fed up and wants more freedom of choice. PPOs and nongatekeeper plans are the fastest growing medical insurance products. Nationally, capitated risk contracts were down by over 30% in 1999. But the insurers continue to consolidate. For example, in 1999 there were about 1.5 million Connecticut residents enrolled in 10 HMOs and 77% of those were in three plans; Anthem, ConnectiCare, and PHS. There were another 500,000 enrolled in 15 indemnity managed care organizations with 91% of those enrolled in just three plans; Aetna, Connecticut General, and United Healthcare. Moreover, health-care premiums are expected to rise 10% to 30% next year. Many employers cannot afford to pay these double-digit increases in health-care benefit costs. It is, therefore, likely that some form of managed care and risk contracting will survive and possibly increase.

Doctors On Their Own

Many hospital executives have been burned by risk contracts, and they may sit out the next round of managed care. We doctors will likely be on our own. Insurers may decide to contract individually with each of us. It has been estimated that once an individual insurer makes up 15% or more of a practice's volume, it would be a financial disaster for the practice to lose that plan's business. Each of our practices may thus be faced with the grim prospect of accepting whatever is dictated by the three or four major health plans that form the majority of our patient volume. If physicians don't take a proactive stance we are going to face a persistent downward spiral of our fees to levels below Medicare, a scenario already prevalent in some parts of the country. In fact, a careful analysis of at least one major Connecticut payer reveals that the combination of a low reimbursement schedule, a large withhold that is never repaid, and new down coding software, based on diagnosis code and not service rendered, results in a physician bottom line that is often below Medicare.

IPAs—The Most Acceptable Model

Most physicians agree that an IPA is the most acceptable model for working together in managed care. Personally, I doubt that doctor unions will ever become widely accepted or that either political party will ever pass the Campbell bill, a measure allowing physicians collective bargaining ability. Single tax number group practices must be large to accept risk contracts or to hold any leverage against large HMOs. Thus our best chance to meet the challenge is to keep working to improve our IPAs' ability to manage care so that we can offer a valuable alternative in the marketplace.

Improving Local IPAs

How do we improve our local IPAs? Many are dispirited, low on resources, and still not savvy in the intricacies of managing risk contracts. There is a glaring need for an organization of Connecticut IPAs to meet and share information and resources. There is no reason for each local IPA to reinvent the wheel. We need to develop data management expertise, Connecticut benchmarks, and cost-effective medical management techniques that improve patient care. We need new utilization and quality approaches to replace global risk contracts. We need to share names of experienced attorneys, data management consultants, and other key personnel. We can probably share the costs of information infrastructure and many other common expenses. We need lobbyists, marketing, relationships with employers, and group dialogues with insurance executives. Most of these needs can best be met with an umbrella organization of IPAs. Unfortunately, preliminary initiatives in this direction have been unsuccessful.

The Health-Care Watershed

I think that in Connecticut and in most of the rest of the country we are at a health-care watershed. In my opinion we have five to 10 years to get our act together. During that time I see two possible scenarios. Ideally, doctors develop efficient IPAs and manage and improve medical care in cost effective ways. We develop infrastructures, management expertise, good track records, and effective physician leaders. We wrestle the momentum away from HMOs and when we learn how to manage and improve health care under a budget we join with hospitals and go directly to employers to market our valuable services. This scenario will not come cheaply. We will have to support our IPAs with time, cooperation, and money. We cannot depend on hospitals, pharmaceutical companies, or others to build our infrastructure. Doctors have to realize that they must invest in their future together.

In the alternative, pessimistic, scenario we fail to work together and HMOs continue to beat us down individually. We continue to be swamped with red tape and lose the ability to control our patients' care. Our fees are pushed down below Medicare. The three-year trend of decreasing medical school applications increases as the best and the brightest young students stop going to medical school and the rest of us become increasing despondent about the practice of medicine. As Medicare looks better and better, we lobby the government to save us from the HMOs, and out of desperation we opt for a one payer national health-care system. In the end we all work for the government, much like most of the rest of the doctors in the world.

While the future always has a way of defying prediction, I think that we still hold our fate in our own hands. Now is the time for us all to re-evaluate our willingness to work together towards a doctor-led health-care system.

Richard J. Mangi, M.D., M.B.A.
President, Primary Care Physicians Corporation IPA
The Physicians Corporation MSO
Hamden

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50 Years Ago

From *The Connecticut State Medical Journal*

December 1950

Pulmonary Function

DICKINSON W. RICHARDS, JR., M.D., *New York City*

The Author. *Director, First Medical Division, Bellevue Hospital*

I. Studies of pulmonary function, and its disorders, have made in recent years a considerable contribution both to the diagnostic analysis, and to the practical therapeutic management of chronic pulmonary conditions. Some examples may be mentioned:

1. Measurements of pulmonary function have defined not only the different types of physical disability, but the degree and extent of each, in such diseases as silicosis, other forms of pulmonary fibrosis, asthma, and emphysema.

2. The analysis of pulmonary function has brought renewed interest in the careful physical examination of the chest; and many well known physical signs, and a few new ones, have assumed increased significance and importance.

3. Certain new forms of chronic pulmonary disease have been discovered and described.

4. In surgical cases, the operability or nonoperability of a patient can be better defined by these measurements, and the probable effects of surgery on postoperative physical capacity can be quantitatively predicted.

5. By repeated physiological measurements, the effects of treatment can be accurately determined; and over long periods of time the progression of the disease can be followed.

Only a general survey of this subject can be given in a brief lecture. What I shall try to do is: to indicate what it is that pulmonary function studies aim to accomplish; to describe briefly the measurements that are made and their significance; and finally to illustrate their application in a few specific diseases.

The primary function of the lungs is the aeration of the blood. Any understanding of pulmonary function must always keep in mind these two categories: aeration, with all that it signifies; and the blood and circulation, with all that it signifies.

To illustrate what an extraordinary apparatus the lungs are from an engineering standpoint, so to speak, consider the situation in maximum or near-maximum exercise. For an oxygen consumption of 3000 cc. per minute, some 90 liters of air are inhaled and 90 liters exhaled per minute thus requiring a tissue of great elasticity, expansibility and resilience. At the same time this structure is being perfused by a heavy and rather viscous fluid, i.e. whole blood, at a rate of over 25 liters per minute or almost a pint a second and with this rapid perfusion time still has to be allowed for the blood as it passes through the pulmonary capillaries to be fully saturated with oxygen-a truly astonishing achievement in hydraulics. It is small wonder that it requires only slight changes in this structure, if they are diffusely distributed, to produce marked loss of physical capacity.

Let us now examine a little more in detail the successive steps in pulmonary function as the respiratory gases are transported between the outside air and the blood. Figure 1 gives this in schematic form.

Reprinted from the *Connecticut State Medical Journal*, December 1950.

From the Department of Medicine, Columbia University College of Physicians and Surgeons; and the First Medical Division, and the Cardiopulmonary Laboratory of the Chest Service, Bellevue Hospital, New York, N.Y.

Presented at the Connecticut Clinical Congress, September 13, 1949

PULMONARY FUNCTIONS

Ventilation	Mass movement of air Air distribution
Alveolar function	Membrane diffusion
Pulmonary blood flow	Capillary blood perfusion
Right ventricle	Volume flow, pressures

FIGURE 1

Schematic representation of ventilatory, alveolar and vascular aspects of pulmonary function

First comes the mass movement of air into and out of the lungs, a mechanical task performed by the musculoskeletal apparatus of thorax, diaphragm, and abdomen. It requires competent actively moving parts, as well as an elastic pulmonary tissue, and elastic and patent air passages.

Next is the much more delicate function of adequate and proportionate distribution of inhaled air in countless small portions to alveolar spaces that are also being perfused with blood through the alveolar pulmonary capillaries. This is both an anatomical and a neuromuscular adjustment of great sensitivity.

The third step is the diffusion of respiratory gases-oxygen and CO_2 in opposite directions across the alveolocapillary membrane.

Finally, as already indicated, the pulmonary blood flow, activated by the right ventricle, carries the aerated blood to the left heart and from thence it passes to the tissues. This flow through the lungs obviously must proceed at quite low pressures in order that the lungs may continue to expand and contract. High pressure in a set of liquid-filled tubes will stiffen the entire structure.

II. The methods of measurement of pulmonary ventilation and of alveolar function are quite simple, most of them within the capacity of any competent laboratory or even office technician. The apparatus requires space but is not costly. Quantitative measurements of the pulmonary circulation are of course more difficult, involving cardiac catheterization and therefore a trained research team.

Let us consider these methods. First, lung volumes.

The measurement of static lung volumes, such as the familiar vital capacity, or maximum volume of a single breath, can be made with a simple volumetric spirometer. But this gives only half the story. It records the amplitude of a maximum breath but gives no indication how rapidly or how slowly that breath can be taken. Thus the vital capacity may be a good index of pulmonary function with restricted ventilation, as after pneumothorax or thoracoplasty; but it is a poor index in asthma or obstructive emphysema where the chief difficulty is not reduced amplitude of breathing but retardation of breathing due to obstructed air passages.

A very much more useful apparatus is the rebreathing spirometer with graphic tracing on a moving drum, which records both amplitude and speed of breathing. This apparatus is now commercially available.

Figure 2 gives the type of record or spirogram that is obtained.

The maximum breathing capacity or maximum minute ventilation, is perhaps the best index of ventilatory function and its reduction the best single measure of the symptom of dyspnea in pulmonary disease.

But the whole pattern of the spirogram also reveals much about ventilatory disorders, as some of the records in Figure 2 indicate. These will be discussed in more detail

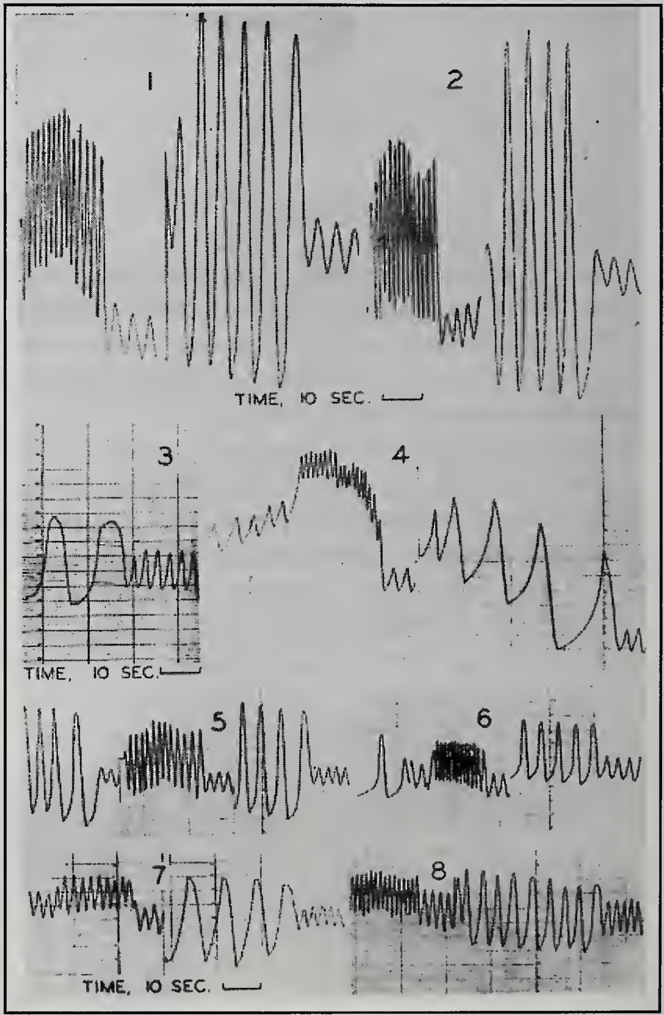

Figure 2.—Graphic registration of breathing, from recording spirometer. Tracings read from right to left, expiration down, inspiration up. Tracings 1 and 2, normal subject: from right to left showing quiet respiration, then a series of vital capacity breaths, then quiet respiration, then maximum breathing capacity. Tracing 3, patient with advanced congestive heart failure, showing reduced vital capacity. Tracing 4, patient with advanced obstructive emphysema, for further description see text. Tracings 5, 6, and 8, patients with various forms of restrictive ventilatory insufficiency, having reduced vital capacity and maximum breathing capacity, but no retardation due to obstruction. Tracing 7, patient with combined restrictive and obstructive ventilatory insufficiency.

later. Suffice it to say that if one apparatus were to be recommended for addition to the physician's equipment to give the maximum information on pulmonary function with a minimum of cost and of technical difficulty of operation, it is the recording spirometer.

Another important lung volume is the residual air, the volume remaining in the lungs at the end of a deep expiration. This is greatly increased-often twice, sometimes three times the normal value of 1500 cc., in advanced emphysema and is the most reliable single measurement of the diffuse emphysematous state. Its measurement is not difficult, though probably out of the range of the usual office equipment. An inert and nonabsorbed gas such as hydrogen or helium can be rebreathed and after mixture its dilution will give the volume of residual air. Another method is to inhale pure oxygen, and collect the expired air in a large gasometer or Douglas bag. After a few minutes nearly all the nitrogen previously in the lungs will be washed out and since the concentration of nitrogen in the lungs during air breathing is always about 81 per cent, the volume of air occupied by this nitrogen can be readily calculated if the total number of cc. of nitrogen washed out is measured.

So much for lung volumes. Coming to the question of effective distribution of inhaled air, as I stated earlier, normally each inhaled breath is distributed to alveoli that are being perfused with blood, except, of course, for the so-called pulmonary dead space air in the larger branches of the tracheobronchial tree, which is inhaled and exhaled again without change.

In many forms of disease, however, there is marked disturbance in this process. Some alveolar spaces are over ventilated; others are perfused with incoming blood but scarcely ventilated at all, with consequent stagnation. The CO_2 in these latter spaces increases, oxygen decreases, venous blood coming into these capillaries is not oxygenated, and arterial anoxia results.

A convenient measure of the effectiveness of distribution of inhaled air-in other words of the ventilation or washing out of alveolar spaces-can be obtained by the continuous inhalation of pure oxygen, for a period of 7 minutes, with collection of expired air—the same procedure used to determine residual air. In a normal individual after breathing oxygen for 7 minutes, the remaining nitrogen in his alveolar spaces (obtained from a deep expiratory sample of air) will be less than 2.5 per cent. In lungs with uneven or inadequate distribution of inhaled air, this residual nitrogen may be 5 to 8 per cent, occasionally up to 10 or even 15 per cent. Poor mixing is one of the important causes of anoxia and cyanosis.

The final criterion of adequate aeration of the blood by the lungs is the oxygenation of the arterial blood and this measurement is essential for an analysis of all cases where this form of anoxia is present or suspected.

Actually it has been found that very much more complete information can be obtained by a somewhat more comprehensive test than a single arterial puncture. This consists in the measurement of the patient's actual pulmonary ventilation, his oxygen consumption (or metabolism), and of the arterial blood gases, first under conditions of rest, and again after a brief period—from one to five minutes—of a standard exercise, such as walking a given distance, or an up-and-down step test. In the evaluation of pulmonary disease, just as in cardiac disease, it is now being found that many abnormalities appear much earlier under conditions of stress.

One very simple example of the usefulness of a standard exercise test is in the quantitative estimation of the symptom of dyspnea. Dyspnea or breathlessness, as one would expect, depends on the relation between the individual's ventilatory capacity—the maximum breathing capacity—and his actual ventilation at the moment. The difference between these two, the maximum breathing capacity minus actual ventilation, is called the breathing reserve. In a simple exercise test, it has been found that dyspnea is usually noticed by the subject when his breathing reserve is reduced to about 65 per cent or 70 per cent of his maximum breathing capacity.

These, then, constitute the basic measurements for the analysis of pulmonary function: (I) lung volumes, maximum breathing capacity, and the form of breathing from the graphically recorded spirogram, (2) residual air volume and the index of intrapulmonary mixing from the breathing of 7 minutes of pure oxygen, and (3) metabolism, actual ventilation and the oxygenation of arterial blood before and after exercise.

Mention may also be made of two other techniques which are of great value in certain situations, though more difficult to carry out. One is bronchospirometry, the measurement of ventilation and gas exchange in each lung separately with the aid of an intrabronchial catheter, important in chest surgery; and the other, already mentioned in passing, cardiac catheterization, by which total blood flow and the pressures in the right ventricle and pulmonary artery can be accurately determined.

III. Before taking up the particular diseases in which the use of these measurements can be illustrated, it will be in order to review briefly a general classification of the forms of pulmonary dysfunction or pulmonary insufficiency. Dr. Cournand and I[1] published the essentials of this some years ago, and again recently,[2] and it may be familiar to some of you.

The classification (Table 1) is similar in form to the outline of functions just given. The basic division is into two categories: those disturbances concerned with pulmonary ventilation and those concerned with respiratory gas exchange, a function that takes place in the pulmonary alveoli. Ventilatory insufficiency is further divided into

Table 1

Forms of Pulmonary Insufficiency

	TYPE OF DYSFUNCTION	CHIEF SYMPTOM
I. Ventilatory	Mechanical	Dyspnea
(1) Restrictive		
(2) Obstructive		
II. Alveolorespiratory	Mechanical	Anoxia
(Respiratory gas exchange)	and	
(1) Distributive	physicochemical	
(2) Diffusional		
III. Pulmonary vascular	Mechanical	Pulmonary arterial hypertension, cor pulmonale

that due to restriction of the bellows action of chest and lungs; and that due to obstruction of air passages. Alveolorespiratory insufficiency is divided into disturbance of distribution of inhaled air to functioning alveoli; and disturbances of diffusion of gases across the alveolocapillary membrane.

Clinically, the simplest and among the most common forms of pulmonary insufficiency are those belonging to the first group, the restrictive ventilatory insufficiencies in which the fault is largely or wholly in the bellows mechanism of chest wall or lungs. In this group may be included deformities of chest wall or spine, spinal arthritis, thoracoplasty, hydrothorax, pneumothorax, pleural fibrosis. The intrapulmonary conditions are those causing loss of elasticity without air passage obstruction, such diseases as the pulmonary fibrosis of tuberculosis and silicosis (when not complicated by emphysema), sarcoidosis, radiation fibrosis, and various forms of nonspecific infectional pulmonary fibroses.

Measurements, in mild or moderate degree of dysfunction, show some decrease in vital capacity and especially in maximum breathing capacity but the spirogram pattern is not distorted, there is no retardation due to obstruction. Intrapulmonary mixing (distribution of inhaled air) is normal, there is no arterial anoxia, except in advanced stages, even after exercise.

Symptoms consist chiefly in breathlessness on exertion. The patient is comfortable at rest.

It is perhaps worth while to consider also the physical examination in these patients, since by careful observation it is often possible to estimate both the form and the degree of pulmonary failure, almost as accurately as by quantita-

Table 2

Physiological Classification of Emphysema

STAGE OF PULMONARY INSUFFICIENCY	PHYSIOLOGICAL CRITERIA	CHIEF CLINICAL MANIFESTATIONS
1. Ventilatory	Decreased lung vols. and M.B.C. Arterial O_2 saturation not under 92 per cent. Arterial CO_2 not over 52 vols. per cent.	Dyspnea, hyperventilation on exercise. No anoxia or cyanosis.
2. Ventilatory, anoxic	Marked decreased lung vols. and M.B.C. Arterial O_2 saturation under 92, per cent on exercise. Arterial CO_2 not over 52 vols. per cent.	Dyspnea, hyperventilation on exercise. Anoxic, cyanotic on exercise.
3. Ventilatory, anoxic, hypercapneic	Extreme decrease in lung vols. and M.B.C. Arterial O_2 saturation under 89 per cent on exercise. Arterial CO_2 over 52 vols. per cent.	Marked dyspnea, hypoventilation on exercise. Anoxic, cyanotic, rest and exercise.
4. Ventilatory, anoxic, hypercapneic, right heart failure	Extreme decrease in lung vols. and M.B.C. Arterial O_2 saturation under 82 per cent on exercise. Arterial CO_2 over 56 vols. per cent.	Marked dyspnea, hypoventilation on exercise. Anoxic, cyanotic, rest and exercise. Polycythemia, right heart failure.

tive measurements. The patient should be observed both during quiet and deep breathing, directly and with the fluoroscope, and during and after a single up and down step test, about 30 steps in 1 minute. In intrapulmonary fibrotic disease of moderate degree there is normally a symmetrical decrease of chest and diaphragm movement. In advanced stages of pulmonary inelasticity a frequent physical sign is jerking downward of the trachea with each inspiration. Another manifestation, in some cases of advanced intrapulmonary fibrosis, is the "wing-motion" of the chest, expansion consisting largely of lateral flare of the ribs, while the anterior lower sternum is actually pulled backward during inspiration.

For most forms of chronic ventilatory insufficiency there is no cure. Management consists in adjusting the patient's activities to his respiratory, i.e., ventilatory, capacity.

In the greater number of chronic pulmonary disorders, the forms of pulmonary insufficiency in any given case are not single, but multiple, and the problem is both to identify each one and evaluate its importance in the patient's total dysfunction. This is impressively true in what is perhaps the commonest single chronic pulmonary disease, obstructive emphysema.

The pathogenesis of this disease gives the key to the functional changes found. The normal tracheobronchial tree, as Macklin demonstrated,[3] dilates its entire lumen during inspiration, just as do the pulmonary alveoli. Narrowed bronchioles will be widest open in the hyperinflated state, and this is therefore the chest position which the emphysematous or asthmatic patient naturally assumes and maintains. Chronic hyperinflation probably contributes to the attenuation of alveolar capillaries, with eventual trophic change, dissolution of capillary walls and formation of large, inelastic, thin-walled, poorly vascularized emphysematous blebs and bullae. In the skeletal system, hyperinflation overexpands the upper chest, and produces a low flattened diaphragm, which eventually becomes practically functionless. Instead of its normal downward piston-like movement, its contraction now only pulls the lateral chest wall inward, and the lower sternum backward, thus actually inhibiting normal ventilatory movement. The ineffectual ventilation of stagnant air spaces with narrowed openings results in poor aeration of the blood and thus arterial oxygen unsaturation.

The various forms of pulmonary dysfunction in emphysema can be quantitatively measured by the simple methods already described. The characteristic spirogram in advanced obstructive emphysema is shown in Figure 2. Vital capacity is decreased, but much more significant is the retardation of breathing, especially in expiration, due to bronchiolar obstruction. On successive deep breaths, expiration is less and less effectual due to "trapping" of air in large stagnant air spaces. Maximum breathing can be carried out only in the extreme hyperinflated position, and even then is reduced to perhaps one-quarter or one-fifth of normal values.

Residual air is much increased, due to hyperinflation, and in addition, intrapulmonary mixing of inhaled air is unequal, as already mentioned. Arterial, oxygen unsaturation with cyanosis and other evidences of anoxia may be marked, and much aggravated during and after exercise.

Thus in advanced obstructive emphysema all forms of pulmonary insufficiency are present: ventilatory restrictive, ventilatory obstructive, alveolorespiratory distributive, and probably also alveolorespiratory diffusional, this last due to decreased numbers of alveolar capillaries and reduced membrane surface area for diffusion.

Emphysema also disturbs the pulmonary circulation, again due primarily to decrease in small vessels. This leads eventually to pulmonary arterial hypertension, as shown by cardiac catheterization studies, with the catheter in the pulmonary artery. The normal pulmonary artery pressures of 28/8 may be increased in marked emphysema to 65/25 or even higher. This, in turn, may lead to cor pulmonale and right heart failure, the so-called Ayerza syndrome: marked arterial anoxia, right ventricular hypertrophy and congestive failure, increased blood volume, and polycythemia.

Recent studies have shown[4] that the entire physiological picture of obstructive emphysema in its progressive stages of increasing severity can be classified logically into four groups, as outlined in Table 2. Simple obstructive and restrictive ventilatory insufficiency in the first stage is succeeded by the development of anoxia in the second, even though the patient still hyperventilates during exercise; that is, he ventilates significantly more than a normal person performing the same exercise. In the third stage ventilatory insufficiency is even more advanced; the patient cannot ventilate, during exercise, as much as a normal subject, and CO_2 accumulates in blood and tissues. In the fourth stage, as already described, the fully developed picture of cor pulmonate with right heart failure has become established.

The physiological principles above described aid greatly in carrying out the examination and the therapeutic management of the patient with emphysema. Physical examination of the lungs and chest, during rest, deep breathing, rapid breathing and exercise, will demonstrate the obstructive element, if present, especially during expiration, and its effects upon chest movements. It is, of course, much better if a spirogram can be obtained. This is even more useful in measuring the effects of the most helpful single agent in the management of these cases, namely, the bronchodilator spray. Simple observation will also show the degree of uncoordination or asynergy of different muscle groups during breathing—often an important factor in these patients' dyspnea. Regular breathing exercises, if conscientiously and persistently practiced, may be of help in such cases. Another important element in pulmonary dysfunction is the atonic abdominal wall, with its failure to support an already low and flattened diaphragm. Firm manual pressure against the lower abdomen will often produce, under fluoroscopic observation, definite elevation of the diaphragm and improvement in expiratory movement. Sometimes as much as 1000 cc. increase in vital capacity can be achieved by this maneuver. These cases are sometimes greatly helped by a well fitted lower abdominal belt.

Further details of treatment, the therapeutic use of oxygen in advanced cases, the management of secondary heart failure, the Ayerza syndrome, with cardiac drugs, phlebotomy, etc., are outside the scope of the present paper.

One special form of chronic pulmonary disease I should like to mention briefly, which has recently been discovered or rather rediscovered, since essentially the same condition was described many years ago by Brauer in Germany under the name "pneumonosis."[5] It is a disturbance involving primarily the process of oxygen diffusion across the alveolar capillary membrane and we have termed the condition "diffusion fibrosis." Wright[6] has found that beryllium granulomatosis of the lung falls into this group and we have found the condition to occur in scleroderma of the lung, in certain special cases of "non-specific" infectional fibroses and in rare intrapulmonary neoplasm with widespread invasion into alveoli.

Clinically, cases of diffusion fibrosis are characterized by severe dyspnea due to marked hyperventilation, without asthma or obstruction; and cyanosis, much worse during and after exercise. There is usually more or less associated cough. X-ray shows diffuse pulmonary changes but usually nothing characteristic to differentiate them from other fibroses. Functional studies demonstrate: (I) some decrease in lung volumes, more or less symmetrical, with residual air also reduced; (2) nearly normal maximum breathing capacity; (3) greatly increased pulmonary ventilation, both at rest and exercise; (4) normal tidal air distribution and pulmonary mixing; (5) definite arterial oxygen unsaturation during and after exercise. Treatment is chiefly palliative: rest, with oxygen inhalation as needed.

Finally, a few words about the pulmonary and respiratory manifestations in congestive heart failure. In most forms, other than cor pulmonale, it is the left heart, especially the left ventricle, that is the dominant element in the failure of the heart. One of the early manifestations of reduced cardiac reserve is a lesser increase in oxygen consumption during exercise (compared with the normal), due to the inability of the heart to increase cardiac output to a normal extent. At this stage exertional dyspnea is caused chiefly by relative hyperventilation—increase in actual volume of air breathed—during exercise, compared with the ventilation of the normal subject on the same exercise. Maximum breathing capacity may be but little decreased. A further change that takes place in an early stage of failure is an increase in pulmonary artery pressure during exercise, this being the first manifestation of pulmonary congestion.[6] As this latter process becomes more marked, with increasing left ventricular failure, the pulmonary vascular hypertension stiffens the entire lung—with or without alveolar moisture or edema—vital capacity and maximum breathing capacity are much reduced, and the full picture of left-sided congestive failure is established. Dyspnea at this stage is due largely to decreased breathing capacity. In advanced stages arterial oxygen saturation may also be moderately reduced, to about 88 or 85 per cent.

Summarizing, I have attempted to describe, in brief outline, the various aspects of pulmonary function; to show how these can be measured clinically; to demonstrate how these pulmonary functions are disturbed in disease, and how measurements of function in pulmonary insufficiency can be used to analyze the disease in question; and finally to indicate in a few instances how the use of such measurements can lead to rationally planned and effective therapy.

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FROM THE EDITOR’S DESK

“What Goes Around …”

Some say that today’s students and trainees in the medical disciplines show little interest in, or deference to, the fascinating lessons of our historical past. They might be heard quoting Sydney Smith (1771–1845) from *Lady Holland’s Memoir*, “That sign of old age, extolling the past at the expense of the present,” or Longfellow (1807–1882) from *The Skeleton in Armor,* “Look not mournfully into the Past. It comes not back again. Wisely improve the Present. It is thine. Go forth to meet the shadowy Future, without fear, and with a manly heart.” Even Edmund Burke (1729–1797) is resurrected to say, “You can never plan the future by the past.”

All philosophically sound, not to be toppled by history-lovers with the likes of, “Past is prologue,” or “He who ignores the mistakes of the past is bound to repeat them.” But there is hope that some adherents may be acquired from medicine’s youthful ranks. There is an expression in modern parlance that could serve as the vehicle to illustrate how much of what we consider “current” has origins in the past, and that all that appears new may not in essence be new at all. So, armed with the quip, “what goes around comes around,” we veterans embark on a campaign to promote our belief that reflecting on the history of medicine is not only enlightening, but fun.

The visitor to any general surgery operating room today will find that gastrointestinal surgery, specifically G-I anastomosis, is being performed with an array of new instruments that are marvels of modern technology. There are stapling devices that when placed in the opposing ends of a divided viscus can be snapped together, tightened, and fired, delivering two staggered rows of staples across the divide to securely unite the two ends. No sutures; time saved; reproducible improved outcomes.

Now let me take the reader back to France in the year 1826. Efforts to suture together the divided intestine met with frequent failure. Felix-Nicholas Demans devised a method by which intestinal anastomosis could be accomplished by placing hollow silver tubes, one in each end of the divided bowel, and interlocking them to hold the ends in apposition until healing occurred. This innovation met with only limited success, but until William S. Halsted stressed the importance of including the submucosa in intestinal sutures in 1887, the suturing techniques of anastomosis were not universally successful either.

Then, in 1892, the bombastic but brilliant J.B. Murphy, of Chicago, giving no credit to Demans, introduced his Murphy button, a pair of interlocking mushroom-shaped metal rings, one for each end of the divided viscus which when snapped together held the ends in secure apposition. The device was widely utilized nationally and in Connecticut until after World War I. No sutures; time saved; reproducible outcomes. Halsted’s leadership in encouraging correct suturing techniques, especially incorporating the tensile strength of the submucosa, held sway over the “boutonistes.” The concept contained in the Murphy button was relegated to the surgical scrap heap—temporarily.

Meanwhile, in Budapest in 1908, one of Hungary’s leading surgeons, Humer Hültl introduced the first surgical stapling device for use in gastrectomy. It was a massive device (3.5 kg) that delivered two staggered rows of metal staples to close the gastric wall during resection. It caught the eye of a Russian surgical trainee studying in Budapest at the time, Aladar von Petz, who devised a lighter and streamlined version of the stapler which was introduced into the surgical armamentarium in 1924. Surgeons in the German-speaking countries, drawing on the von Petz concept, devised other stapling instruments over the next three decades, but the von Petz clamp was the only device to be commonly used in the U.S. where it was seen in gastric surgery into the 1960s. Back in Russia the surgical successors to von Petz engineered more stapling instruments which became the foundation for the American technology after their transplantation into the U.S. by Dr. Mark Ravitch in 1958.

At first the technology concentrated on linear staplers utilizing the von Petz concept. Soon, the Murphy button was retrieved, at least in principle, from its dusty museum bin. It inspired such technological innovators as the U.S. Surgical Corporation engineers to devise an instrument that placed its two parts in opposing ends of the bowel, secured them together, fired two staggered rows of staples, and with a circular blade cut out the intervening “donut” of tissue to complete the sutureless anastomosis. Even the jaded observer views it as "magic," especially after all those years of painstakingly including the submucosa in all those sewn anastomoses. And, imagine, the basis for it all goes back 175 years.

There is a postscript to this sketch. There is a new surgical mesh being advertised for tissue reinforcement. When secured in place to repair weakened tissue it provides immediate tensile strength then gradually is reabsorbed. Guess what? It's made from intestinal submucosa. What goes around, comes around.

H. David Crombie, M.D.
Editor

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The Physician Health Program

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M.D. PAC Makes A Difference

Having just experienced the hotly contested election process, we know that politics is, by its very nature, synonymous with controversy. This is because the political process involves advocacy, endorsement, and persuasion. Medicine was again in the middle of the political inferno. M.D. PAC, medicine's political arm, is the CSMS nonpartisan political action committee that allows organized medicine to get involved in the election process. M.D. PAC must make difficult and sometimes controversial decisions on behalf of *all* the physicians of Connecticut.

The M.D. PAC Board of Directors is comprised of physicians nominated from each county to reflect the diverse political attitudes, issues, and priorities represented throughout the state. The Board meets several times a year to establish a list of candidates to support for (re)election to the legislature. This may involve heated discussions before coming to a decision. At times, members of the Board may return to their counties feeling disappointed that a particular point of view did not prevail—but all the directors agree that the primary objective is to find the most advantageous positions to represent medicine for the majority of physicians in our state.

Decisions to support political leaders are based on a number of criteria, including a legislator's voting history, leadership position, committee assignments, and willingness to sponsor/advocate for the legislative priorities of physicians. The primary objective of M.D. PAC is to support politicians who are inclined to listen to our concerns for our patients.

M.D. PAC is also the Connecticut physicians' unified voice in the political process. The greater the membership, the greater the visible impact we can have in the election process. M.D. PAC is extremely effective when physicians are also active in grassroots politics. The more impressive the membership, the more favorable the chances to make changes.

In Connecticut, we have made an effort to gain access to *all* legislators. We have attempted to educate them on the many issues physicians and their patients face. Physicians must recognize that our hard-working legislators face a multitude of various other issues as well. At the Capitol, we must maintain our position as a major force as we confront other politically powerful groups including of course managed care organizations. As the only organization that represents *all* physicians in Connecticut, our CSMS legislative agenda is very broad and yet comprehensive. We proactively seek passage of a number of key bills while always facing many other bills and amendments that must be defeated. CSMS and our lobbying consultants track literally hundreds of bills each legislative session. Our state medical society is not and cannot be a single-issue organization. Our approach to the legislative process must be much more pragmatic.

While there is disappointment over the dual-eligible Medicaid issue this past session, we have had success in raising public consciousness and legislative attention to it and have been successful, as well, in getting other favorable legislation passed. Connecticut has been a national leader in managed care reform legislation (despite the great handicap of Hartford being the Insurance Capital of the World) which includes one of the first external appeals processes (1997), removal of gag rules (1997), full mental health parity (1999), and strict prompt payment requirements (1997, 1999). This is an impressive record.

Physicians can be proud of the accomplishments of M.D. PAC. I urge all physicians to make a difference — to become a member by sending a personal cheque for $100 dollars or more to M.D. PAC at CSMS. Our advocacy must reach beyond the physician's office and into the State Capitol.

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There Are Ways to Save

ROBERT U. MASSEY, M.D.

> If there is not enough money, there are ways to save. There was a time when many doctors were glad to volunteer their services on a part-time basis, indeed competed to do so, unpaid by state or federal funds and unreimbursed by insurance companies, in order to look after people unable to care for themselves. We should be looking around again for such doctors, ...
>
> —Lewis Thomas, in *Late Night Thoughts on Listening to Mahler's Ninth Symphony*

DURING some table-talk about the high cost of medical care, and the higher cost of prescription drugs, someone asserted that the cause of all this was the great number of people who were unwilling to avail themselves of preventive medicine, just didn't take care of themselves until it was too late, and then costs got out of hand.

Much has been written about prevention, and I've no doubt that some of it is true. In the early days of the University of Connecticut School of Medicine we talked much about doctors' role in maintaining the health of their patients, and how we would build all that into the curriculum. Yet some of us were skeptics. I recall a conversation with a newly recruited internationally distinguished endocrinologist: "Don't smoke, don't drink too much, don't get fat, use seat belts, get your immunizations—what the hell else is there?" Harvey Cushing, probably in a blue mood, once wrote ",... prevention can be very much overworked. There is only one ultimate and effectual preventive for the maladies to which flesh is heir, and that is death."

About 15 years ago, curious to see what effect modern medicine may have had on adult life span, I tabulated the ages at death of the physicians, about 240, mentioned in Garrison's *History of Medicine*, who had died in the "long" 19th century, 1793–1914. I then checked the ages at death of 240 consecutively-listed physicians in the most recent obituary pages of *JAMA*. The 20th-century physicians lived on average two years longer: 72.5 to 70.5.

To have made it into Garrison's *History*, a physician would have reached his late 20s or early 30s, made an adequate income, and inherited an above average intellect, all predictors of a longer life. If he had had tuberculosis, it was of that chronic variety compatible with a reasonably active life. And, of course, he had escaped or recovered from the many childhood terrors, including death as a neonate, and, being male, he had not faced the risks of pregnancy and parturition.

A nonmedical historian recently asked me, "What medical advances of the past century account for our increasing length of life?" I listed clean food and water, the decline in neonatal and maternal mortality, immunizations, aseptic surgery, insulin, antibiotics. Much of the rest of what physicians do, with notable individual exceptions, has apparently made little, if any, statistical difference. I reminded him that life expectancy is life expectancy at birth; what he probably had in mind was "Why are there so many more old people now?" The mean age at death has changed little; there are just more of us who reach the eighth decade and beyond.

Again, Lewis Thomas:

> There is no question that our health has improved spectacularly in the past century, but there is a running argument about how this came to be. One thing seems certain: it did not happen because of medicine, or medical science, or the presence of doctors.
>
> Much of the credit should go to the plumbers and engineers of the Western world. The contamination of drinking water by human feces was at one time the single greatest cause of human disease for us, and it remains so, along with starvation and malaria, for the third world.

Much of medicine is now technology, the kind Thomas would call, "half-way technology," egregiously expensive, often of little value, but impressive, seductive, oversold, and profitable. We are burdened by bureaucracies that exist for their own sakes; paperwork consumes hours of physicians' and nurses' time, and much of what we do, even our research, is driven by someone's eagerness for profit. We even pay to advertise; that would have been a disgrace 30 years ago. But high technology, Thomas told our medical students back in the 1970s, was both effective and usually cheap. Contrast the cost of postoperative chest films with the application of the stethoscope, or an MRI with the tap of a reflex hammer!

And what if each physician were to donate one half day each week for the care of patients in free clinics, something quite common a half century ago? "If there is not enough money, there are ways to save."

ROBERT U. MASSEY, M.D., Professor Emeritus, Division of Humanistic Studies, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington.

This Month's Reading in Review

TIMOTHY B. NORBECK

"This is good news for America's seniors and the physicians who care for them."

D. Ted Lewers, M.D., chairman of the AMA Board of Trustees, referring to HCFA's new physician fee schedule which allows for a 4.5% raise in overall Medicare payments for both primary care physicians and specialists, effective 1 January 2001.
Modern Healthcare (6 November 2000)

"Among all the industries we rate, including banks, insurers and brokerage firms, HMOs currently have the largest percentage of endangered institutions. What's worrisome is that these financial pressures can sometimes impinge upon the quality of care afforded to consumers, or, in a failure, potentially leave them stranded."

Comments by Martin D. Weiss, Ph.D., chairman of Weiss Ratings, Inc., the nation's leading provider of HMO ratings.
BW Healthwire (30 October 2000)

"More than half of all physicians in the United States and a large percentage of those in four other English-speaking countries believe their ability to provide quality health care to patients has deteriorated over the past five years, according to a new international survey of doctors released today by the Harvard University School of Public Health and The Commonwealth Fund.

In addition, the survey finds that fewer than one in six U.S. physicians thinks his or her ability to provide quality care improved over the last five years, despite increased spending and medical advances seen in the same period. No more than a quarter of doctors in the other countries surveyed—Australia, Canada, New Zealand, and the United Kingdom—think their ability to deliver quality care has improved."

Release by the Harvard University School of Public Health and the Commonwealth Fund.
(12 October 2000)

When nurses came to a 72-year-old woman's hospital room in Nashville, Tennessee, to prepare her for open heart surgery, she was gone.... Hospital security guards searched the entire building before someone noticed a note she had left behind.... "Gone to vote, back in 30 minutes...." It was election day.... An election official at her precinct confirmed that an elderly woman had come in to vote, complete with IV tubes coming out of her arm.... The surgery went off smoothly and on schedule, which is more than can be said for the election.
This is True (12 November 2000)

According to the 2000 Health Confidence Survey, many Americans are growing more critical of the health care industry, more confused about managed care, and more concerned about escalating medical costs.... The survey, co-sponsored by the Employee Benefit Research Institute, the Consumer Health Education Council, and Mathew Greenwald & Associates, finds that 39% of Americans feel that health care in general has gotten worse over the past five years.... The percentage who say they are somewhat familiar with the concept of managed care has fallen from 29% in 1998 to 23% today, while 39% said they are not at all familiar, up from 28% in 1998.

2000 Globe Health Confidence Survey
(3 November 2000)

"Forget sheep: 75% percent of American adults watch television before falling asleep, 50% read the newspaper, 13% have a drink, and 10% (some do a combination of the four) surf the internet, a national survey for mattress-maker Serta found. Sleep expert John Weidman, author of the book 'Desperately Seeking Snoozin,' recommends that people should not over stimulate their minds and bodies before sleep and instead should engage in more relaxing, soporific activities."

Scripps Howard News Service/Modesto Bee
(9 October 2000)

Only in America.—In February, in East Providence, Rhode Island, the family of a deceased boater filed a wrongful death lawsuit against the city, arguing that his fatal heart attack was caused by the Assistant Harbor Master during a 1998 incident.... However, according to police reports, all the Assistant Harbor Master had done was to yell at the boater, who was maneuvering his boat without required navigation lights....The boater's last words to the Assistant Harbor Master were: "Mind your own (expletive deleted) business!"
News of the Weird (25 August 2000)

TIMOTHY B. NORBECK, Executive Director, Connecticut State Medical Society.

Payment Error Prevention Program: Qualidigm® Completes Initial Pilot Projects for PEPP

Qualidigm, the Connecticut Peer Review Organization (PRO), would like all providers in Connecticut to have an up-to-date understanding of the progress of the Payment Error Prevention Program (PEPP). PEPP is designed to reduce payment errors made by Prospective Payment System (PPS) in hospitals using a continuous quality improvement approach. PEPP is a national project for the Health Care Financing Administration (HCFA) and hospitals' participation in PEPP is required.

During the first year of PEPP, the PROs conduct one quality improvement project on unnecessary admissions and one project on Diagnosis Related Group (DRG) miscoding. The projects selected by Qualidigm were based on analysis of hospital Medicare inpatient discharge data for calendar year 1998, for the high frequency and high cost DRGs. Data collection was done to identify any causes or patterns of coding and documentation in the records that would lend themselves to further analysis at the hospital level and respond to interventions for improvement.

Coding and Documentation: The DRG Project

Aberrant patterns in coding have been a concern to HCFA. Given the complexity of the Medicare population, variation in use of certain DRGs is expected. However, the Office of Inspector General (OIG) has noted nationwide atypically high billing patterns for some DRGs that should have been coded to a lower weighted DRG. HCFA estimated substantial hospital overpayments attributable to incorrect DRG classifications.[1]

In a study aimed at identifying coding practices related to the use of DRG 475 (Respiratory System Diagnosis with Mechanical Ventilation), Qualidigm selected DRG 475 for further analysis. This DRG is reserved for mechanically ventilated patients with a true respiratory system diagnosis, and carries with it a high relative weight value. The relative weight is based on the national median length of stay for this class of patients and is designed to reflect treatment costs. Reports from the OIG suggest that claims billed under DRG 475 have a significant incidence of DRG change when the claim is reviewed for DRG validation.[2] OIG audits have revealed a significant proportion of DRG 475 claims for which there is insufficient documentation within the medical record to support the principal diagnosis, a key component in assigning the appropriate DRG to any Medicare claim. One factor influencing the erroneous assignment of DRG 475 is the presence of a diagnosis of pulmonary edema secondary to congestive heart failure (CHF, 428.0). As an example of how this applies: DRG 475 cannot be assigned to a claim for the treatment of respiratory failure resulting from CHF with no other qualifying respiratory diagnosis.

A total of 391 medical records, representing 15% of all DRG 475 claims submitted by Connecticut hospitals for calendar year 1998, were selected for the project. Record abstraction revealed that 14% (n=55) were submitted for Medicare reimbursement for which insufficient documentation resulted in the incorrect assignment of the DRG. Of the 55 identified records, 53 (96%) were DRG 475 claims. For the entire sample of DRG records, 22% (53) were identified as not following established coding conventions. Forty-five of the identified records (85%) were identified because the principal diagnosis as billed was not the principal reason for the hospitalization. Five of the records (9%) were noted to have a significant (ie, DRG-affecting) diagnosis or procedure coded incorrectly.

Admission Review: The Short Stay Admissions Project

In its most recent report on HCFA's Financial Statements, OIG provided a summary of the last four years of its review, indicating that over 70% of erroneous payments made by the Medicare Program were made where documentation was insufficient to support medical necessity of the admission.[3] Short stay inpatient admissions were found to be particularly vulnerable to questionable necessity of an inpatient stay. Generally, the documentation of admitting diagnosis and treatments were insufficient to justify complexity and intensity of care and services provided at an inpatient hospital level of care. The OIG's Work Plan for Fiscal Year 2000 has identified the question of medical necessity of short stay admissions, in the project "One Day Hospital Stays," as one of its critical projects for the current year.[4]

In accordance with our HCFA contract, Qualidigm developed the Short Stay Admissions Project to identify opportunities for improvement in the documentation and coding of short stay inpatient admissions, transfers, and readmissions in Connecticut's acute care PPS hospitals.

The findings of a review of 441 records, representing 5% of all one-day inpatient admission stays in Connecticut for calendar year 1998, indicated that 8% had insufficient documentation to substantiate the intensity of services provided in a hospital inpatient setting. Sixty-four percent (64%) of the insufficient documentation issues were associated with four DRGs (listed in order of frequency): DRG 243 (Medical Back Problems), DRG 065 (Dysequilibrium), DRG 296 (Nutritional and Metabolic Disorders), and DRG 182 (Esophagitis, Gastroenteritis, and Miscellaneous Digestive Disorders). Medicare regulation 42 CFR 482.24(c) requires providers to maintain records that contain documentation to justify diagnoses, admissions, treatments performed, and continued care.

Use of Findings

Many billing or coding errors are not intentional but the result of a very complicated payment system. Many of the errors may also be clerical in nature or result from incomplete documentation. Note that the term "error" when referring to billing and coding issues is often used in the idiosyncratic manner, meaning insufficient documentation or lack of adherence to coding conventions. For example, DRG 475, while paying for equivalent services, is correct for respiratory failure from asthma but not CHF as the code is for primary and not secondary lung problems. To most physicians it seems bizarre to consider this an error because it does not relate to errors in patient care.

Educational interventions will assist in correcting these errors, and education is at the core of reducing the rate of payment errors. Documentation of facts, findings, observations, history and physical examination results, outcomes of tests and treatments need to be sufficiently organized and comprehensive as to clearly demonstrate the quality of care provided to Medicare beneficiaries. In addition, outcomes of good documentation include continuity of care among health care professionals and coordination of the patient's treatment plan.

The practice of medical record documentation can be derived from a variety of regulatory standards, including Medicare Conditions of Participation. Hospitals are encouraged to use the project findings to explore their existing coding, billing, and medical record policies and procedures. Educational interventions for hospital staff, including physicians, can focus on documentation training that will support appropriate coding and billing, be consistent with regulatory requirements, help reduce payment errors, and assist the hospital in receiving the level of reimbursement it is entitled to receive.

We are committed to working with providers on PEPP. If you would like to learn more, call the PEPP team for a presentation at (860) 632-6376.

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Freda B. Schroeder, Sc. D., M.P.A., B.S.N.
Director, Program Integrity, Qualidigm
Correspondence: (860) 632-6394
Fax: (860) 632-5665
e-mail: ctpro.fschroed@sdps.org

The analyses upon which this publication is based were performed under Contract Number 500-99-CT01, entitled "Utilization and Quality Control Peer Review Organization for the State of Connecticut," sponsored by the Health Care Financing Administration, Department of Health and Human Services. The content of this publication does not necessarily reflect the views or policies of the Department of Health and Human Services, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government. The author assumes full responsibility for the accuracy and completeness of the ideas presented. This article is a direct result of the Health Care Quality Improvement Program initiated by the Health Care Financing Administration, which has encouraged identification of quality improvement projects derived from analysis of patterns of care, and therefore required no special funding on the part of this Contractor. Ideas and contributions to the author concerning experience in engaging with issues presented are welcomed.

Letters to the Editor

Letters to the Editor are considered for publication (subject to editing and abridgement), provided that they are submitted in duplicate, signed by all authors, typewritten in double spacing, and do not exceed 1-1/2 pages of text (excluding references). They should not duplicate similar material being submitted or published elsewhere. Letters referring to a recent Journal article should be received within six weeks of the article's publication.

Azithromycin

Letter to the Editor: In my experience of being a practicing community pediatrician for nine years, I have had amazing clinical experience with azithromycin 30mg/kg, one dose, in pediatric pneumonias. In particular, I refer to children, ages five to 10, presenting with high fever, 100°F to 104°F, very toxic looking, pulse oxymeter saturation 88% to 90%, with crackles, and increased resonance on auscultation. These children were given a single dose of azithromycin, 30mg/kg. On 24 to 36 hours follow-up, the patients were afebrile, saturation improved to 96% to 98%, there was marked clinical improvement, and no side effects to azithromycin. If any physicians have had similar experience with azithromycin used in this fashion, please email to mkhera@snet.com.

Mohammed Khera, M.D.
Winsted

The Human Side

Letter to the Editor: In his editorial, *The Human Side* which appeared in the October issue, (*Conn Med* 2000; 64:635) Dr. Crombie reminds *Connecticut Medicine's* readers there are many different ways to characterize the practice of medicine. He mentioned how the scientific, human, political, and financial components interact and how they can sometimes be at odds with one another. There is practical value in breaking down the practice of medicine into these various components because it is too easy to focus on just one at a time and forget that only when all of these components are in balance will medicine be in a position to recapture the dignity and prestige which medicine enjoyed 50 or 60 years ago.

Most physicians are caught up with the immediacy of taking care of sick patients and conforming to the impersonal demands that managed care forces upon them. As a result they end up practicing in an environment that resembles less and less the image of medicine that they held in their hearts when they entered medical school. For a large number of physicians this state of affairs has demoralized and confused them and led to a significant loss of professional satisfaction. Worse, it has ended in resignation and a sense that nothing can be done for many others. This is dangerous not just for the current generation of physicians but also for those still in training—the ones who will be taking care of us when we are ill.

I had a conversation a few days ago with a young primary care physician who had been in practice only a few years and he confided that if it weren't for the fact that he had a wife and children he would leave the practice of medicine. Sadly, I think he spoke for many physicians. Is this what medical school and residency are supposed to lead to? A confluence of other factors including the fear of lawsuits, patients' demands for infallibility, and managed care's ignorance of medical practice has contributed to the growing cynicism among physicians both young and old.

For these reasons it is critical that the "human side" of medicine that Dr. Crombie discussed be kept in our minds and that we use powerful and inspiring vocabulary when talking to our legislators. Words like suffering, fear, love, dignity, and loss are our strongest allies against the impersonal demands that the health-care system is mounting against physicians and patients. Physicians should not feel uncomfortable in using them every chance they have. In their discussions with legislators, many physicians find it much easier to defend the scientific foundations of medicine than to defend the humanistic ones.

I have been in meetings with legislators where physicians have made presentations and the main thrust of the evening's discussion was the tardiness of HMOs' payments to doctors, and low reimbursement rates. As important as prompt payment and fair reimbursement are to physicians these are arguments that don't resonate well with legislators. I don't believe that legislators are as sympathetic as doctors would like them to be when they complain about the financial pressures that managed care has forced upon them. And I don't think they ever will be. They know that regardless of the pressures and inconsistencies of managed care, the majority of physicians have better incomes than most others.

Legislators still don't have a solid insight into medical practice. They don't, in part, because physicians have not stressed sufficiently the "human side" that Dr. Crombie has written about. As long as physicians continue to rant and rave about the poor reimbursement schedules that HMOs force upon them, legislators will smile and nod cordially, but they will not take physicians concerns seriously enough to defend them.

The point is that the time has come to add a new component to physicians' political efforts. Not that the old ones were bad, but physicians need to broaden their arguments to include the "human side" if they expect to be more effective. Only when legislators are made to see the "human side" of medicine and how it is being affected will they truly commit to making health care a serious issue. What physician could say that in the recent presidential debates, either candidate spoke knowingly and enthusiastically about the problems of health care?

Legislators must be made to see how the tedious filling out of referral forms and changing of medications to conform to an HMO's formulary wear down physicians' minds and souls. And how this detracts from physicians' abilities to diagnose correctly and spend time attending to patients' questions and emotional needs. Each specialty can define its own way in which its humanistic base is being destroyed.

If the "human side" is not brought to our legislators' attention, how will they ever be convinced that it is as important as we know it to be?

Edward J. Volpintesta, M.D.
Bethel

On Intoxicating "Reflections"

Letter to the Editor: In his October column "Reflections on Medicine," Dr. Massey muses over the health benefits of alcohol, and recalls the Prohibition and family scofflaws who drank martinis and made beer. He tells us that the word *scofflaw* came into existence during the prohibition era (1920 to 1933). In fact, Prohibition added a number of terms to the American lexicon.

Journalist H.L. Mencken, writing in the March 7, 1935 issue of *The New York American,* claimed the term scofflaw had first "gone out over the wires of the Morse electric telegraph on the evening of January 14, 1924." The origin of this term is unique since it may be the only word ever coined simultaneously by two different people.

The 18th Amendment (Prohibition) banned the manufacture, sale, and transportation of intoxicating liquors. It became the law of the land after ratification by Utah, the 36th state to do so. Incidentally, neither Connecticut nor Rhode Island ratified the proposed amendment. In their book, "Drinking in America," historians Mark Lender and James Martin state that it wasn't long before violations of this law became rampant. In 1922, for example, physicians in Illinois wrote 2.29 million prescriptions for alcoholic "medicines." In New York, the Yale Club's liquor supply was quite ample, as was Gilda Gray's Piccadilly Rendezvous, "a nightclub favored by Yalies."

Alarmed by these events, the Massachusetts millionaire and staunch prohibitionist, Delcevare King, offered a $400 prize in 1923 for a word that would best describe this increasing defiance of the National Prohibition Act. From some 25,000 entries, the term *scofflaw* was selected. Two Massachusetts' residents, Miss Kate Butler of Dorchester and Henry Irving Shaw of Andover, had submitted the same word and shared the prize.

Other Prohibition terminology included "Bathtub gin." It referred not to the brewing of the booze, but the process of filling and diluting the large liquor bottles from the bathtub faucet since they did not fit under the lower kitchen sink spigot. "Rum Row" was a coastal area where liquor was smuggled into the country. "Speakeasies" and "Blind Pigs (Tigers)" were illegal saloons. A "Jake Leg" was a mononeuropathy of the leg that resulted from drinking an extract of Jamaican ginger, "jake," adulterated with triorthocresylphosphate. (In 1959 a similar outbreak occurred in Morocco when cooking oil was diluted with lubricating oil.)

Other terms were made popular by Prohibition, including "bootlegger" and "flapper," but these words existed before. One version of the origin of the expression "real McCoy" is that it referred to one Bill McCoy, a bootlegger known for his high-quality booze. An "alky-cooker" was a still for home use costing around $10.

Dr. Massey's father made beer for personal consumption as did thousands of other Americans. Although this was not unlawful, it did violate the spirit of the temperance movement. I wonder if Mr. Massey realized he was emulating a number of great Americans who at one time had brewed their own beer. These include Governor John Winthrop of Connecticut, Thomas Jefferson, and Ben Franklin.

Prohibition defied centuries of wisdom including thousands of aphorisms extolling the benefits of alcohol. Now medical research is reaffirming these healthful attributes.

Five hundred years ago Rabelais wrote in Gargantua, "A hundred devils [will] leap into my body, if there are not more old drunkards than old physicians." What took doctors so long to find this out?

Lee Sataline, M.D.
Cheshire

"The President's Page"

Letter to the Editor: I could not agree more with Dr. Timmerman's article on "The President's Page" of the most recent *Connecticut Medicine* (*Conn Med* 2000; 64:636). Many of Dr. Timmerman's thoughts echo those of my late father, Dr. David Waskowitz, a general practitioner in New Britain for more than 50 years. When I joined him in practice in 1962, the two statements that stick in my mind that my Dad said to me my first day in medical practice were "just remember practicing medicine is not a right it is a privilege." He also made the point that "if you will just take the time to listen to your patient, the patient will tell you what is wrong." I have a picture of my Dad hanging in my office next to my desk and I look at it every day and recall those words of wisdom.

And now the pendulum has swung again and my son joined me in the practice of orthopaedic surgery three months ago, coming to New Britain from a bustling practice at the Lahey Clinic. I could not resist the temptation to quote to him the words of his grandfather.

All of my patients get their fair share of time and they get my full attention as well as an occasional hug or a handshake. Some of my older female patients who I have known for many years might even get a kiss on the cheek as they leave. Is this sexual harassment? It certainly is not; it is called caring. Yes the days are long and the paperwork overbearing. If I had it to do over, would I? You can bet your bottom dollar I would.

I found it interesting that opposite Dr. Timmerman's article was a poem submitted by Dr. Thomas J. Dannaher 50 years ago. It is interesting because I went to medical school with Dr. Dannaher's son, Tom Dannaher. I have practiced orthopaedics full time and I will certainly know when it is time to stop.

All of you who practice medicine under the heel of managed care can take courage not only in the message written by Dr. Dannaher but also the message written by Donald D. Timmerman, M.D.

William J. Waskowitz, M.D.
New Britain

University of Connecticut School of Medicine

Department of Community Medicine Seminar Series

Calendar—Winter 2000–2001

January 5
Sara Beatrice, Ph.D., (Director, Retrovirology and Immunobiology Division, New York City Department of Health)
"Increased Detection of HIV-2 in New York City-1998–Present"

February 1
Patricia Case, M.P.H., Sc.D., (Department of Social Medicine, Harvard Medical School)
"Social Inequalities, Drug Use, and Risk of HIV"
Objectives: Participants will be able to 1) identify three special populations at risk for HIV; 2) describe direct and indirect social factors contributing to risk of HIV; and 3) discuss potential new directions for intervention to prevent HIV and other diseases in these special populations.

All seminars are held at the University of Connecticut Health Center from NOON to 1:30 P.M. and lunch is offered *free of charge* provided your reservation is received two days prior to the seminar. For specific location, information and reservations call: Theo Ungewitter (860) 679-5495.
Seminar information is also on our web site: http://www.commed.uchc.edu/medicalhumanities/

Sponsored by: University of Connecticut School of Medicine, Office of Continuing Education, Department of Community Medicine and Health Care and Supported in part by an unrestricted educational grant from Agouron Pharmaceuticals, Inc.

Target Audience: Physicians and Other Health Professionals

Accreditation: The University of Connecticut School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The University of Connecticut School of Medicine takes responsibility for the content, quality and scientific integrity of this CME activity. The University of Connecticut School of Medicine designates this educational activity for a maximum of 1.5 hours per session in category 1 credit towards the AMA Physician's Recognition Award. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

Conflict of Interest Policy: All faculty participating in Continuing Medical Education activities sponsored by the University of Connecticut School of Medicine are required to disclose to the program audience any real or apparent conflict of interest related to the content of their presentations.

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Join a Committee; Serve your Profession

Connecticut State Medical Society

Early in the year 2001 the Councilors from the eight constituent county medical associations will assume the responsibility of selecting members of the Society to participate in the various activities of the Society, listed below. In making these selections it is of importance to choose physicians who are not only willing and able to serve but also who are known to have an interest in the work of the group to which they may be assigned.

In order to enable this office to furnish the Councilors with a compilation of those who desire to be considered for committee service, members are asked to indicate by number in order of preference (not more than three) in the questionnaire below.

Please indicate your first three committee preferences individually by inserting the numbers 1, 2, and 3 on the appropriate line and fax to: (203) 865-4997 or mail by January 15, 2001 to: CSMS Committees, 160 St. Ronan Street, New Haven, CT 06511.

Medical Education

____Committee on Continuing Medical Education

Medical Economics

____Committee on Insurance

____Committee on Workers' Compensation

____Managed Care Patient Advocacy Committee

Professional Relations

____Committee on Ethical and Judicial Affairs

Public Affairs and Communication

____Editorial Committee on *Connecticut Medicine*

____Committee on Legislation

____Committee on Public Affairs

Scientific and Socio-environmental Medicine

____Cancer Coordinating Committee

____Committee on Physician Health

____Committee on Maternal Morbidity and Mortality

____Committee on Medical Aspects of Sports

____Committee on Alcohol and Other Drug Dependency Education

____Committee to Study Perinatal Morbidity and Mortality

____Committee on Public Health

____Committee on Organ and Tissue Transfers

____Committee on Geriatrics

____Committee on Medicare

____Committee on Allied Health Services

Representatives and Advisors

____Representatives to Connecticut Advisory Council on School Health

____Delegates to Connecticut Public Health Association, Inc.

____Delegates to Connecticut Nutrition Council

Name:______________________________ M.D.
(Please Print)

Office Address: ______________________________

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From the Executive Director's Office

COUNCIL MEETING

Thursday, 19 October 2000

Attendance

Present in addition to the Chair, Dr. Deren, were: Drs. Ahamed, Beck, Bigos, Brooks, Connair, Eslami, Franklin, Geary, Goodrich, Gorelick, Handelman, Katz, Keating, Maloney, Mansourian, Redmond, Sridhar, Surreddi, Timmerman, and Wetstone. Also present were Dr. Genel, Mr. Norbeck, Ms. Lindquist, Mr. Brunell, Ms. Morelli, Ms. Norbeck, Ms. Schaffman, Ms. Graham, and Mr. Staples (all CSMS staff), Mr. Thompson and Ms. Cole (FCMA staff), Mr. Fiorentino (HCMA and NHCMA staff), A. Schuman and M. Schuman (NLCMA, WCMA, MCMA, TCMA staff), Dr. Thompson, Mr. Lalime, and Ms. Mastriano (CSMS-IPA). Dr. Joseph Misiak (President (HCMA). Absent were Drs. Aleali, Ducey, Galvin, Geist, Herzog, Hollister, Montegut, Sadowski, Scarpa, Schwartz, Sindwani, Sosa, Tesoro, Turner, Van Linda, and Wong.

Reports

CSMS-IPA: A written report was received from Ken Lalime, Executive Director of CSMS-IPA, giving an update of the IPA activities. It was reported that the IPA Board of Directors sets goals and objectives for the IPA related to financial aspects of the organization including return of withhold to members. Currently, through six months of the year 2000, projections are on target with the established goals. The Board of Directors has approved a restructuring of IPA committees to enable a more efficient flow of information from practitioners. The IPA U/M Committee continues to utilize the review of E & M services and provide education to practitioners identified during their review process. The IPA continues to move forward on those issues defined by the Board of Directors and expects to achieve the majority of this fiscal year's goals and objectives. Mr. Lalime reported that there is a continuous ongoing communication between CSMS officers and IPA board members between Council meetings and Board meetings and an open dialogue has been established to alleviate or identify problem issues. Dr. Thompson reported there are three major endeavors that the Board is working on at the present time: Behavioral Health Issues, E-Commerce Venture, and negotiations for 2001. Dr. Thompson discussed each of these projects.

Report of the President

Dr. Timmerman reported on the following items:

M.D. PAC: It was reported that M.D. PAC has reached an all-time high of 735 members. The campaign for the year 2001 will be starting and he is looking forward to making history by reaching 1,000 members for the first time in the history of the PAC, which started in 1964. It was reported 20 political fundraisers have been hosted by physicians.

Council of New England State Medical Societies: The meeting was held at the Massachusetts Medical Association Headquarters in Waltham, Massachusetts. One matter of interest was a report from the Maine Medical Association stating that the Bureau of Medical Services is requesting that all Medicaid providers perform a self-audit of the Medicaid claims from the last five years. The state agency is seeking bids from private companies to perform audits of physicians' offices with payment based on a contingency fee of 25% (a finder's fee) for all monies returned to the state.

County Semi-Annual Meetings: He attended as many county meetings as possible and all of the county leaders have spoken with strong support of the concept of the federation of county associations and the state society working in collaboration for the benefit of Connecticut physicians.

Specialty Sections: In accordance with the wishes of the House of Delegates, 33 specialty societies with Connecticut chapters have received invitations to send a delegate or alternate to House of Delegates meetings. The response from the sections has been encouraging.

CSMS-IPA: Several CSMS officers met with Mr. Lalime and Dr. Thompson to discuss issues of mutual concern. These meetings are a valuable way of communicating physicians' problems to the IPA and create a better understanding of IPA issues.

Report of Executive Director

Mr. Norbeck reported on the following items:

1. *Review of upcoming election:* It was reported that the state senate, with a present 19-17 Democratic majority, probably would go to a 20-16 or possibly a 21-15 Democratic majority. The House, at 96-55 in favor of Democrats, should end up adding one or two seats to that majority. He pointed out that if Gore/Lieberman win and the Attorney General takes Senator Lieberman's seat, medicine would be deprived of a good friend.

   Prior to Mel Carnahan's death, Democrats were talking about capturing at least a few senate seats and also South Carolina republican Senator Strom Thurmond, who at 97 and in ill-health, will probably only want to serve two more years. With a Democratic governor in South Carolina, it is conceivable that seat might change next year. Seven other U.S. Senators are also over 75, all come from states with a Democratic governor or with the Democrats leading in the gubernatorial races, so that the senate could change in the next few years.

Presently, there are seven physicians serving in Congress with six of the seven standing for reelection. Another 12 physicians are challenging incumbents, so if the 96% success rate of incumbent reelections doesn't hold, perhaps there will be several more physicians in the 107th Congress in January.

2. *Norwood/Dingell Bill-Patient's Protection Bill:* This legislation awaits action of the House-Senate Conference Committee. Congress was going to adjourn on 13 October but passed a resolution to work an extra week before adjourning. AMA has been working to get that 50th Senate vote in support of the House-passed revised Norwood /Dingell bill. It now would limit damages in federal court to five million (there was no cap on suits of HMOs in the original version). Also there are tougher provisions on the type of injuries subject to suits. AMA was successful in getting that 50th senator, ironically it was Republican Missouri Senator John Ashcroft, who was locked into a fierce reelection battle over his patients' rights voting record with the late Mel Carnahan. There is a small chance for a vote on the issue, however the calendar is working against it, and it will probably have to wait until the next Congress convenes.
3. *Presidential Debates:* There is no doubt that the winners of the presidential debates are American seniors. Candidates for the presidency and all other elective offices are pandering all over the country in support of a prescription drug program for seniors. Everyone seems to agree that some prescription drug benefit is important, but Congress does need to be careful about the cost. Federal largess going to seniors has grown considerably over the years, rising from about $8,900 for the average senior in 1991 to $17,700 this year. By 2010, it is projected to surpass $21,000 annually, good for the older amongst us but not so good for children who will foot the bill. A very generous prescription drug benefit on top of that will cause some serious future budget problems. Legislation will not pass in 2000 and will need further debate.

County Reports

At the direction of the Council, county presidents are invited to attend the Council meeting as (nonvoting) guests.

Dr. Misiak, President of the Hartford County Medical Association, reported that they had moved their headquarters to a smaller building, not too far from their former location. They have reduced their staff and their dues to $325, a reduction of $74. They are looking forward to working in collaboration with the state organization.

Mr. Schuman reported for Dr.Govil, President of the New London County Medical Association, who was unable to be present. Mr. Schuman reported that they were undertaking a countywide campaign to get patients to file their claims about inappropriate actions by HMOs, whether they be in the area of drug formularies or denial of medical tests or delays in authorization for important services or hospital admission. They have provided posters in every physician's office giving the address and phone numbers for the patients to respond. The poster reads, "New London County Medical Association wants to be your advocate. Call, write or e-mail your complaints and we will take them to the proper authorities to focus attention on these practices." This information has also been put on their web page and they hope to get enough information to share with CSMS and find a way to use the information.

Dr. Maloney reported for Dr. Lavorgna, President of the Fairfield County Medical Association, who was unable to be present. Dr. Maloney reported that Fairfield had a successful semiannul meeting and had invited legislators to discuss pending legislation concerning matters of interest to physicians. They held a "White Coat March" in Stamford and over 150 physicians marched from the hospital to City Hall in support of restoring Medicaid funding for the dual-eligible patients. Also relating to the Attorney General's class action lawsuit against several HMOs, the county agreed to send a letter to its members asking physicians to submit to the county association any incidents where HMOs may have inappropriately denied patient care. This information will be shared with the Attorney General.

Dr. Handleman reported for Dr. Hitt, President of the Litchfield County Medical Association, who was unable to be present. Dr. Handelman reported that Sharon Hospital had filed papers with the Attorney General to transfer the ownership of the hospital to a for-profit corporation. This action was strongly supported by physicians at Sharon Hospital because the only other alternative was to close the hospital.

Dr. Deren brought out the issue of "Successor in Interest Clause." He stated that many medical staffs may not be aware of this clause, and what that means is when your hospital is bought out by a for-profit corporation, they must abide by the bylaws that they already have. If the hospital does not have that clause in their bylaws, when the hospital is bought out, the medical staff has no rights, and they can be fired or privileges taken away, and others hired. Therefore, when a medical staff supports the sale of a hospital, they ought to know that and state that they do not approve of the hospital being sold unless the new entity agrees to the previously stated bylaws. It was suggested that the Council members go back to their hospitals to see if their bylaws includes the "Successor in Interest Clause. It was VOTED that a letter be sent to the president of the medical staff of every hospital.

Representative Bill Dyson

Representative Bill Dyson, Chair of the Appropriations Committee, and representative for the St. Ronan Street District, joined the Council. He discussed some of the issues facing the Legislature in 2001, such as education, prescription drugs, dual-eligible patients, public health, and many other issues. He stated that it was important that physicians themselves make their position known on issues in which they have an interest. This means extra effort on the part of physicians to get to Hartford and be recognized. A question and answer period followed.

Legislative Update

The CSMS Committee on Legislation submitted a proposed legislative agenda for the year 2001. Some of the items listed in the agenda were as follows:

Reinstatement of Medicaid funding for dual-eligible patients.

- Increase in Medicaid reimbursement rates for physicians.
- Fairness in contracting standards.
- Mandated adherence to the RBRVS system of reimbursement.
- Pursue legislation to require insurance companies to pay for all CPT codes for all medically necessary and appropriate independent procedures performed on the same day.
- Seek legislation which would require managed care organizations to cover at least a 10-day supply of non-formulary prescription drugs while the physician is reviewing and/or appealing the HMO's decision to use a formulary drug.
- Seek legislation to overturn the recent Office of Health Care Access Declaratory Ruling that expands the Certificate of Need process to a physician's office where surgical procedures are performed.
- Pursue legislation to require appropriate accreditation of physicians' offices where certain levels of anesthesia are administered.
- Pursue the right to bargain collectively through the state action exemption.
- Support legislation to allow all Medical Savings Accounts to be offered in Connecticut.

Added to the legislative agenda was that CSMS seek removal of the $25.00 filing fee for external appeals.

Mag Morelli, Director of Government Relations, discussed other issues that would be encountered, such as Direct Access for Physical Therapists, Collaborative Physician-Pharmacy Practice, Prescriptive Authority for Naturopaths, Department of Public Health Credentialing Proposal, and the Attorney General's Health Care Fraud Proposal.

It was VOTED to approve the legislative agenda proposed by the Committee on Legislation.

It was further VOTED that CSMS oppose any credentialing activities by the Department of Public Health.

Alliance for a Healthy New England

The CSMS Committees on Legislation and Public Health recommended that the CSMS join and support the activities of the Alliance for a Healthy New England to introduce legislation to increase the tobacco tax and improve health care access with the additional funding. It was VOTED to approve this recommendation.

Report of Delegate to Maine Medical Association

Dr. Redmond submitted a written report on the meeting he attended of the Maine Medical Association. It was reported a major problem in Maine was the cost of drugs. The Commissioner of Human Services discussed this issue and stated that he pays $38 million to MD's and $200 million for Medicaid drugs. An act to establish fairer prices for prescription drugs for the elderly and the poor of Maine was a major accomplishment of the Maine Medical Association. Another accomplishment was that all the tobacco money sent to Maine has been spent or directed to health issues. The Council congratulated Dr. Redmond on being the first person to be made an Honorary Member of the Maine Medical Association.

Miscellaneous

Dr. Brooks expressed his appreciation for the support of CSMS and the Council of New England State Medical Societies in nominating him for a position on the AMA Council on Long-Range Planning.

It was reported that Dr. Myron Genel received an award from the Board of CURE, "Connecticut United for Research Excellence. He was the first president of CURE.

Dates of Future Meetings

Council Meetings

Thursday, 25 January 2001
Wednesday, 21 March 2001

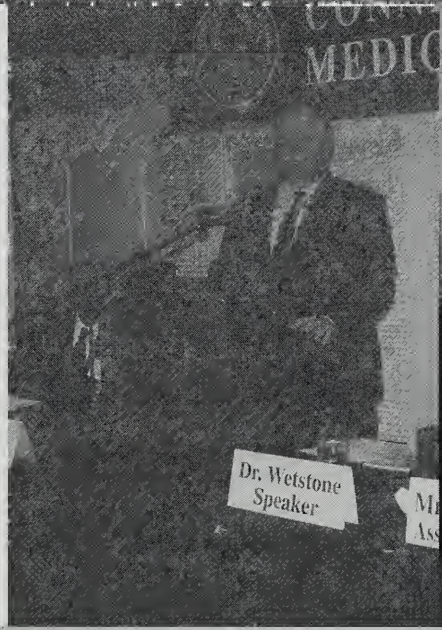
Annual Meeting—House of Delegates

Wednesday, 16 May 2001

Isaac Goodrich, M.D, Vice President, CSMS, Alfred Herzog, M.D., President-Elect, CSMS, and Donald D. Timmerman, M.D, President, CSMS.

Below: **Congressman James H. Maloney and Joseph C. Czartsty, M.D., Oakville, Past President, CSMS.**

Congressman James H. Maloney addressing CSMS House of Delegates.



Congressman James H. Maloney and Donald D. Timmerman, M.D, President, CSMS.

Summary of Proceedings
CSMS House of Delegates—Semi-Annual Meeting
Ramada Inn, Meriden—8 November 2000

Reports and Addresses

The House received reports, addresses and/or remarks from the President, the Council, the AMA Delegation, the Executive Director, Legislative Committee, Connecticut Medical Insurance Company (CMIC) and CSMS-IPA. Most of the reports were published in the Handbook previously distributed to the delegates. The reports of the President, Dr. Donald D. Timmerman, and the Executive Director, Tim Norbeck, appear elsewhere in this Journal. Congressman James H. Maloney was the guest speaker.

Principal Actions Taken

(a) ***Report of the President,*** Donald D. Timmerman, M.D., Glastonbury: Dr. Timmerman's report to the House appears elsewhere in this issue of *Connecticut Medicine.* The report was received as information.

(b) ***Report of the Council,*** Michael M. Deren, M.D., New London, Chair. The House voted to accept, as information, the report of the Chair of the Council, which reviewed the activities of the Council since the last meeting of the House of Delegates. Minutes of the interim Council meetings have already been published in *Connecticut Medicine.* Special emphasis was given to the reports from related organizations such as CSMS-IPA, the various reports given at each meeting by the President, the Executive Director, and the Chairman of the Committee on Legislation.

The Council also submitted a budget for the year 2001 with the recommendation that the Operational, Capital, and Physician Health and Education Budgets be approved and that the dues remain at $390.

The report of the Council and the budgets and dues structure were approved by the House of Delegates.

(c) ***Report of the AMA Delegation,*** Joseph S. Sadowski, M.D., Hartford, Chair.

The 2000 Annual Meeting of the AMA House of Delegates was held in Chicago on June 11–15, and there were more than 550 delegates present. Randolph Smoak, Jr., M.D., South Carolina, was inaugurated as President, and the House elected Speaker Richard F. Corlin, M.D., California, to be the 2000–2001 president-elect of the AMA.

Dr. Sadowski, Chair of the CSMS AMA delegation reported that Michael M. Deren, M.D., Chair of CSMS Council, was elected as member-at-large on the governing body of the Organized Medical Staff Section (OMSS).

The AMA report included some of the following key actions taken by the House:

- Supported reinstating Medicaid/Medicare dual-eligibility reimbursement.
- Sued HCFA for miscalculation of funds that were due to physicians on a national basis.
- Discussed a plan whereby membership could be increased in the AMA through a federation with all the specialty sections, with the proposal that perhaps one fee would automatically enroll the individual as a member of the AMA.
- Approved a resolution that the AMA remind all state medical societies to review their state execution statutes to ensure that physician participation is not required.
- Adopted a resolution that physicians be compensated for their professional services, at a fair fee, for established patients with whom the physician has had previous face-to-face professional contact, whether the current consultation services are rendered by telephone, fax, electronic mail or other forms of communication. The resolution calls on the AMA to press HCFA and other payers to recognize supplemental communication, not as bundled services.
- Adopted a resolution having to do with bundling and downcoding of CPT codes. The resolution states that AMA vigorously opposed the practice of unilateral, arbitrary downcoding and/or bundling by all payers, and that the AMA develop a mechanism for assisting members in dealing with these problems with payers.

- Adopted a resolution which calls for the AMA to continue its advocacy efforts in the area of patient safety, and work to promote a meaningful long-term approach to ensure patient safety in the delivery of health care in the nation.
- Adopted a resolution which establishes that laboratories should provide a written report of all critical results to the physician, regardless of the test or tests that the physician requested. Furthermore, a physician's order should not be required for written release of the test information.

There were many other issues discussed at the meeting and the complete proceedings may be obtained by visiting the AMA website ama-assn.org.

The report was received as information.

(d) ***Report of the Executive Director,*** Mr. Timothy B. Norbeck, New Haven. The House voted to accept the report of the Executive Director as information, which appears in its entirety elsewhere in this issue of *Connecticut Medicine.*

(e) ***Legislative Report,*** David Parke, M.D., Chair, Committee on Legislation.

The following is the proposed 2001 CSMS Legislative Agenda which was approved by the Council and reported to the House of Delegates:

- Seek reinstatement of Medicaid funding for dual-eligible patients.
- Seek an increase in Medicaid reimbursement rates for physicians.
- Seek the following managed care reforms:
  1. Fairness in contracting standards.
  2. Mandated adherence to the RBRVS system of reimbursement.

     This includes a legislated ban on both the bundling of services and the automatic downcoding of claims without proper investigation. This would also encompass the House of Delegates resolution: That CSMS pursue legislation to require insurance companies to pay for all CPT codes for medically necessary and appropriate independent procedures performed on the same day.
  3. The House of Delegates resolution: *That CSMS seek* legislation which would require managed care organizations to cover at least a 10-day supply of a nonformulary prescription drug while the physician is reviewing and/or appealing the HMO's decision to use a formulary drug.
- Seek legislation to overturn the recent Office of Health Care Access Declaratory Ruling that expands the Certificate of Need process to a physician's office where surgical procedures are performed.
- Seek legislation to require appropriate accreditation of physician offices where certain levels of anesthesia are administered.
- Seek repeal of the $25 filing fee from the state's external appeal statute.
- Pursue the right to collectively bargain through the state action exemption.
- Support legislation to allow all Medical Savings Accounts to be offered in Connecticut.
- As a member of the Alliance for a Healthy New England, CSMS will work with the American Cancer Society and other health care advocates to increase the cigarette tax. The Cancer Society will coordinate this effort throughout the New England States.

The Legislative Committee expects CSMS to encounter the following additional issues in 2001:

- Direct Access for Physical Therapists
- Collaborative Physician-Pharmacy Practice
- Prescriptive Authority for Naturopaths
- Department of Public Health's Centralized Credentialing Proposal
- Attorney General's Health Care Fraud Proposal

(f) ***CSMS-IPA Report,*** Ken Lalime, Executive Director. In the report presented to the House, the following information was reported:

Change, although often slow to take form and substance, is necessary to stay current with issues in a dynamic health care arena. The process of change begins with the identification of the issues that are of most importance to the organization and can be implemented over time. The CSMS-IPA has, through a restructuring of the IPA Board's Executive Committee, developed a mechanism to direct change and monitor the results of those initiatives. The Executive Committee membership is now comprised of the IPA Board Officers as well as each Board Committee's Chair. The committee has developed key initiatives for the coming year and has presented them to the Board of Directors. The restructuring includes the following committees: Executive Committee, Finance Committee, E-Commerce Committee, Utilization Management Committee, Imaging Committee, Mental Health Liaison Committee, Quality Management Committee. Each of these committees have specific assignments. In order to facilitate change, the IPA, through agreements with the Plan, maintains representation on key Plan committees to ensure that the decisions and policies of the Board committees are properly communicated. Results of potential Plan committee actions are brought to the appropriate IPA committee for review and comment and recommendations are submitted. Agreement with the Plan also allow for Connecticut 's specific policies and initiatives to be implemented.

It was reported that the IPA Board is committed to developing an organization that meets the needs of the physician community of the State of Connecticut while balancing the responsibility to provide cost-effective quality care defined in the Mission established by the Connecticut State Medical Society. By maintaining network, clinical and financial oversight, it is believed that the opportunity exists to produce an overall product which adds exceptional value to the members of the IPA.

The report was received as information.

(g) ***Report on Connecticut Medical Insurance Company (CMIC).*** Sultan Ahamed, M.D., President and Chairman of the Board of Connecticut Medical Insurance Company reported the following:

- The number of policyholders (3,770) has remained steady through 2000. While physicians comprise almost 90% of CMIC insured, other health care professionals are purchasing malpractice insurance.
- The 2000 Risk Management Self-Study Course addressed a variety of contemporary education topics in the practice setting along with stimulating subjects of a clinical nature that had universal appeal among the Policyholders:

  Department of Health-Administrative Hearings
  Preventing Medication Errors
  Complementary and Alternative Medicine
  Technology Advances in Healthcare Information

For the first time, the course was available via the internet, and more than 10% of policyholders responded by submitting their testing materials and evaluation online. In the very near future, policyholders will have access to information related to their policy on a secured webspace.

CMIC continues to be a source of many types of business office insurance needed in the operation of a medical practice, such as property/general liability, commercial umbrella, commercial auto, workers' compensation and employment practice liability insurance. It was noted that CMIC representatives are available to provide a comprehensive insurance review for a member's practice.

The report was received as information.

(h) ***Old Business:*** Although there was no specific "old business" to come before the House, the Speaker pointed out that at the last meeting of the House Delegates, a resolution was adopted requiring CSMS to publish a report for inclusion in the handbook on the status of all resolutions passed or referred for the previous three years. This document appeared in the handbook.

(i) ***New Business:*** Five resolutions were introduced and were acted on as follows:

RESOLUTION:
EXTENDING APPLICATION FOR EXTERNAL APPEAL (PA 97-99) from 30 to 90 Days

Introduced by the Fairfield County Medical Association:

This resolution was adopted as amended.

Resolved, that the Connecticut State Medical Society shall seek clarification and extension of the filing period for the initiation of the external appeals process (PA97-99) from 30 to 90 days.

RESOLUTION:
PATIENT PROTECTION THROUGH FAIRNESS IN CONTRACTING

Introduced by the Fairfield County Medical Association:

This resolution was adopted as amended.

Resolved, that the Connecticut State Medical Society shall immediately and vigorously pursue these fairness-in-contracting issues, namely, (1) provision of complete fee schedules (2) guaranteed payment in cases of preauthorization, pre-certification and/or verification of coverage and benefit (3) provision of itemized "Explanation of Benefits" statement.

RESOLUTION:
BLENDED REIMBURSEMENT RATES FOR EVALUATION AND MANAGEMENT (E&M CODES)

Introduced by the Fairfield County Medical Association:

This resolution was adopted as amended.

Resolved, that the Connecticut State Medical Society shall seek legislation prohibiting insurers from reimbursing physicians using a "blended" rate for Evaluation and Management (E&M) codes, and be it further

Resolved, that the Connecticut State Medical Society shall communicate to the insurance commissioner in Connecticut the Society's strong opposition of reimbursing physicians and other healthcare providers using a "blended" rate for Evaluation and Management (E&M) and other CPT (Current Procedural Terminology) codes, and be it further

Resolved, that CSMS investigate the legality of such practices in our state.

RESOLUTION:
MENTAL HEALTH "CARVE OUTS"

Submitted by John M. DeFigueiredo, M.D., Waterbury:

This resolution was adopted as amended.

Resolved, that the Connecticut State Medical Society condemn the practice of psychiatric/behavioral health "carve outs" by managed care organizations and furthermore communicate this position to its subsidiary CSMS-IPA.

RESOLUTION: NUMBER OF HOURS WORKED BY PHYSICIANS PROVIDING EMERGENCY ROOM COVERAGE

Submitted by Jeffrey S. Rosenthal, M.D., Fairfield, as an individual:

This resolution was referred to the Council.

Resolved, that the Connecticut State Medical Society study the issue of excessive hours of physicians' on-call duty providing emergency room coverage and provide its members and the hospitals of Connecticut with some guidelines in this matter.

AWARDS

CSMS Past Service Awards to County Councilors

Certificates have been issued to the following physicians for their service as members of the Council:

Craig W. Czarsty, M.D. Oakville—
Councilor-at-Large—1999-2000

New Haven County

John K. Conant, Jr., M.D., Waterbury—1999–2000
Isaac Goodrich, M.D., New Haven—1999–2000

New London County

Michael M. Deren, M.D., New London—1998–2000

N.B.: The foregoing is a summary of the proceedings and actions of the House of Delegates. Detailed minutes of the meeting are on file at 160 St. Ronan Street, New Haven, for perusal by any interested member of the society.

Top: Stanley J. Keating, M.D., Vice Chair, CSMS Council, Jospehine P. Lindguist, Associate Executive Director, CSMS, and Roger S. Beck, M.D., Treasurer, CSMS.

Bottom left: Congressman James H. Maloneyand Jeffrey J. Gorelick, Associate Councilor, Fairfield County Medical Association.

Bottom right: Theodore Zanker, M.D., Delegate, New Haven County Medical Association, addressing reference committee.

Address of the Executive Director
CSMS House of Delegates—Semi-Annual Meeting
8 November 2000

TIMOTHY B. NORBECK

THERE is an old story about two Russian peasants, Boris and Ivan. Both were dirt poor and there was only one difference between them—Boris had a goat and Ivan didn't.

One day, a good fairy appeared at Ivan's hut and told him that she could grant him one wish—but it could be absolutely anything he desired. Ivan thought for a moment and then said: "I want that Boris' goat should die."

The story unfortunately characterizes the sorry state of affairs today—the lack of collegiality—the politics of envy and resentment—the "you're guilty until proven innocent" mentality of HCFA—the new millennium's self-appointed IRS, grossly underfunded Medicaid and Medicare programs to support needed physician services, and the general "why should I trust you" attitude that is so pervasive in America today.

Fostered a great deal by the cost cutting, squeezing, and uncompromising nature of managed care—which has crushed physician spirit everywhere—trust and faith, it seems, have become nothing more than empty words. All of this has had a terrible effect on physician collegiality. Instead of laboring together, physicians have allowed these forces to split them and weaken their collective resolve.

The story of Boris and Ivan, and the temptations our adversaries use to divide us, remind me of what is considered to be the world's shortest play. The opposition political leader, fleeing from his homeland through the mountains, encounters a mountaineer and says, "I'm fleeing from tyranny. Will you help me? There's a price on my head." The mountaineer thought a moment and said: "How much?"

A perfect example of this politics of envy and resentment is the effort by retiring Virginia Congressman, Tom Bliley, which has failed, at least for now, to open up the National Practitioner's Data Bank to the public. Never mind that the NPDB was never intended for that purpose, that experts have advised against it, that the public could and probably would misinterpret the information, that the states are better equipped to do it—Mr. Bliley was insistent on making it happen. There is no question in my mind that it was a simple act of retribution—resentment, if you will—for AMA striving so hard and so successfully for patients' rights legislation. It makes about as much sense as the recent solution a small French town actually found to its overcrowding problem: The politicians made it illegal to die without a cemetery plot!

Just one example of the IRS mentality of HCFA—and there are many of them out there—is a ridiculous event this past summer when HCFA withheld more than $500,000 in Medicare payments over six months to a Florida physician before auditing his billing records, just to be sure that when the audit was completed there would be sufficient funds to return any overpayment to Medicare. When HCFA finally did conduct the audit, it found that the physician was innocent of any alleged fraud and had mere billing errors of $260—yes, $260!

When Wellpoint CEO, Leonard Schaeffer, heard complaints from physicians about his one-sided "take it or leave it" contracts, he said: "If the doctors don't like my contracts, let them walk away." That is just flat out arrogance and sophistry at its worst. Mr. Schaeffer knows full well that in most cases physicians simply cannot and will not "walk away" from their patients. Mr. Schaeffer needs to take very seriously Quentin Crisp's observation that: "The whole purpose of existence is to reconcile the glowing opinion we have of ourselves with the terrible things other people say about us."

When insurer fiction and spin writers offer those arbitrary, unfair, one-sided, take it or leave it contracts, physicians and patients need protection. When insurers hide behind antitrust laws which deny physicians any leverage and prevent them from serving as effective advocates for their patients, physicians and patients need protection.

When insurers can automatically downcode physician claims without even doing a chart review, physicians and patients need protection. That is why we need the Campbell bill, why we must not rest until we have it, and why we must commit ourselves to plunge deeply into those political trenches and do whatever it takes until it is done.

A possible solution to this morass—and it may be the only one available to us at this time—is for physicians to become more involved politically than they have ever been before. CSMS President Don Timmerman will later tell you, I am certain, about some of the strides we have made in this all important arena.

All of you, and your colleagues not here today—but who practice throughout the state and this nation—complain, and with great justification, I might add—that things could be a lot better—that we need to win more of the battles—that patient care is up for grabs—that medicine is forced on the defensive too much. I cannot disagree with you on that, despite our many efforts and some important victories, our many wars, our many expenditures—our many strategies.

But I will make a pledge to you here today. Give us the tools, as Churchill said so many times those 60 years ago, and we will finish the job. By tools, of course, I mean political action—political involvement—political commitment. Many of you in this room and outside of it have recognized and acted on that harsh reality—that physicians—all physicians—must be involved politically. But not enough of you are. We cannot do it alone.

I needn't go into detail about the many forces arrayed against us, the many dollars devoted to that mighty effort, the many entities who profit from your misfortunes and those of your patients.

How can I do that, you might respond? I am far too busy with my professional responsibilities—my family commitments—my community obligations—my own peace of mind.... Those are the exact reasons why you must! We need all physicians—everyone—to join MDPAC, to get to know your state and federal legislators, to hold or attend fundraisers, to be able to pick up the phone and talk to them—in other words: to influence your professional destiny.

Who doesn't want physicians to have more autonomy? Who doesn't want patients to have more choice and a greater voice in the process? Who doesn't want to entrust medical judgement once again to physicians? Only those who stand to gain by the present paralysis which grips our health-care system.

The public—your patients—are with us. The media, by and large, are with us. The state legislatures and Congress, on the most part—are with us. Of those who are not with us yet, many are uninformed or are sitting on the fence. We must reach them, and it appears that only a full and concentrated political effort will accomplish it. Give us those tools, and see how we do. Give us those tools, and then judge us. Give us those tools, and watch the system change. If you can do that, medicine in the rest of the country will follow. If you do it, we will win the war. It is probably the only way to get the Campbell bill.

Not that we haven't had any gains. We have succeeded in Hartford and under AMA's fine leadership, we have made unprecedented progress on patients' rights legislation and the Campbell bill this year. Although neither one has been enacted, both moved through the House with resounding and decisive votes. There will be positive action on a Patients' Rights bill, but the Campbell bill will require far more work.

Speaking of HMOs and the patients' rights legislation, there was a rather dramatic situation that occurred this past summer in a church in rural New York state. It was a miserably hot and muggy day, the seats were jam packed, when suddenly the air conditioner quit. The room became unbearably hot, lightning flashed, and there next to the pulpit stood Satan—horns, tail, and all.

People screamed and rushed to get out of the church—all, that is, except for one elderly gentleman who calmly remained seated in the front row. Satan glared down at him. "Why aren't you running—don't you know who I am?" "I know," said the man. "Then why are you still sitting here?" Satan demanded. "Well," replied the man, "I have been appealing my HMO's denial of services. I knew that, eventually, it would get down to you."

Not everything is going their way by any means. It is an uphill road for HMOs to maintain their corporate dominance. People resent that kind of power, particularly when their health is at stake. Insurers should heed the comment made by former Monsanto CEO Robert Shapiro: "We've learned that there is often a very fine line between scientific confidence on the one hand, and corporate arrogance on the other." Amen.

HMOs are beginning to understand that image is important and that theirs has taken a real beating. And we can never underestimate the importance of image. The state of Oklahoma lost the business and the revenue as the location site for the movie version of the wonderful musical "Oklahoma!" Why? Because it didn't look enough like Oklahoma. Apparently Arizona did.

That leads me to a brief mention of the July effort by 24 of the largest health plans to form the Coalition for Affordable Quality Healthcare. This coalition, of course, promises a more cooperative effort to improve health-care coverage, service, and quality. Pardon my skepticism, but I can't help wondering if it might just have something to do with forestalling the Norwood/Dingell bill in Congress. It worked for the airline industry, and it may work for them. I hope not, but it may.

It's reminiscent of what Henry Cabot Lodge said to President Teddy Roosevelt almost a century ago during a coal strike: "Isn't there something that we can appear to be doing?"

As I said, it worked for the airline industry and it may work for them. Last year, congressional lawmakers were tired of hearing complaints from their constituents about airline travel, and both the House and Senate were eyeing travelers' bill of rights legislation—much like today's patients' rights proposals. Well, lo and behold, the airline industry came along with a list of concessions—kind of like the coalition. Suddenly talk of tough legislative approaches stalled—nothing happened—and air travelers were back fending for themselves. As a footnote, traveler complaints for the 1st quarter of this year were up 74% over last year.

Most of the so-called concessions (OB-GYN, ER access, and external appeals) are already state law throughout the country. But even more relevant is that whatever is given in these promises can always be taken away. So I can't get very excited about it.

Despite the report in late September that indicated a decline in the number of our uninsured of 1.7 million from 1998 through 1999, we should take no comfort in that. The number of uninsured is still an unacceptable 43 million Americans, almost 16% of the population.

In a magnificent report by Robert Wood Johnson Foundation CEO, Dr. Steven Schroeder, he mentions that it is getting harder for people without insurance to obtain necessary care—that recent evidence indicates that less charity care is provided in areas of the country where managed care penetration is deepest. Is it any wonder? Dr. Schroeder asks that if the safety net for uninsured patients is fraying at a time of unprecedented prosperity, what will happen when the economy goes into recession, tax revenues fall, unemployment rises, and the ranks of the uninsured climb beyond 50 million people?

What threatens to exacerbate an already acute crisis is that we are becoming more ethnically diverse. By 2010, the Caucasian population will drop from 74% to 64%, Asians will make up 5%, African Americans 12%, and Hispanics approximately 15%.

These numbers scream out for a solution for the uninsured because while the U.S. population is becoming more ethnically diverse, the medical student population is becoming less ethnically diverse. In 1999, the number of African-American males entering medical school dropped 16% to 383, the lowest number in a decade. Also last year, other underrepresented minority applicants fell 7% to 4,176, the lowest since 1992—although figures just released indicate the number is slightly up for this year. The richest country in the history of the world, huge surpluses—and we can't seem to find the wherewithal to insure everyone.

The uninsured in Connecticut is about 12%, better than three-quarters of the other states—but it is still an unacceptable number. When you look at it, politics isn't really the art of the possible, it is the art of making possible what is necessary. And what is necessary is to insure all Americans. I'm tired of hearing that we have the will but not the wallet. We have the wallet. What's missing is the will. It truly is our national disgrace.

Is anyone surprised that physicians are discouraged today? Many talk of early retirement as a potential remedy to the loss of autonomy and other frustrations of managed care. Recently I came across a wonderful article by a Tacoma, Washington physician who was asking himself some questions you may have asked yourself. "Why do I keep working 12- to 14-hour days?" he asked. "Why do I put up with all of the HMO and governmental hassles that we all face each day? Why don't I just walk away and do something I really like?" he continued.

He said that the answer came to him one Sunday when he and his wife walked through a wildlife preserve and stopped to gaze at the awesome sight of two bald eagles soaring across the horizon and settling above them on a tree branch. "I'm really good at what I do," he exclaimed, "and I really like doing it."

He recalled his first day of medical school seated along with his fellow students in the auditorium, when the curtain opened to a rather intimidating gray-haired physician in a long white coat. "Young doctors," he said in a deep voice, "why are you here?"

"To make people feel better," replied one brave soul.

"No," boomed the voice.

"To make the world a better place," said another.

"No," he bellowed.

"To comfort the sick."

"No," he shouted.

After a few similar suggestions and loud rejections, the white-coated voice said: "You are here today to search out disease, attack it, and defeat it. That is all." With that, the curtain closed, the lights went out, and the medical students were left to wander off to their various lectures.

"I am sorry to say," went the physician writer of the article, "that it took me longer than it should have to realize that this doctor was wrong. Defeating disease is not what I do. I take care of patients. I teach them how to be healthier, give them medication when they need it, help them through the physical and emotional hurdles of life. I laugh with them, cry with them, share their losses, rejoice in their victories. I ease their pain, make their final days more comfortable, mourn their deaths, and comfort their survivors."

"That's what I do" he said, " and that's what I am going to keep on doing. I can't think of anything I do better, and despite the many frustrations, I can't think of anything I enjoy more."

That's what all of you do. Try to remember his words, and keep the faith, keep fighting for your patients, keep standing up for managed care reform, get more involved politically, and keep on doing what you do best—taking care of your patients.

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Address of the President
CSMS House of Delegates—Semi-Annual Meeting
8 November 2000

DONALD D. TIMMERMAN, M.D.

GOOD afternoon and thank you for this opportunity to deliver an update on CSMS activities.

Managed care—Physicians across the nation are expressing their rage and anger at managed care's callous, unprofessional, and shallow treatment of physicians. The physician's survey on managed care in Connecticut, reveals a very disillusioned and frustrated profession. Similar results were just released from a North Carolina physician's survey of managed care, which rated insurers a grade of D+, on such matters as cooperation, communication, claims accuracy, claims timeliness, and health plan certification. Survey results in Connecticut indicate increased office administrative workload, increased physician financial risk, intrusion into the doctor-patient relationship, less time for doctors to spend with patients, and global obstacles in obtaining needed patient medical care. We will continue to support the Attorney General's efforts to address the grievances patients have with managed care. We will continue to engage managed care on five fronts - legislation, public education, patient advocacy, insurer confrontation and negotiation.

Dual coverage—Representative Bill Dyson from New Haven, who is the House Chair of the Appropriations Committee, came to our last council meeting to hear physicians' concerns over the $54 million in funding that has been taken away from 77,000 of Connecticut's most medically needy and vulnerable citizens. The legislative committee is preparing for an uphill battle against the governor's spending cap. I have raised the suggestion of a physician drive-in, to raise public awareness on this issue. How many of you would be willing to personally drive a dual eligible patient from your practice, to the Capitol, for a media event to advertise the impending crisis in health care access? May I see a show of hands?

CSMS-IPA—The Executive Committee has been meeting with Ken Lalime and David Thompson to discuss issues of mutual concern such as the behavioral health carve-out, the e-commerce venture, and various barriers to communication between the IPA and physicians. The CSMS officers will continue to bring physician's problems and complaints directly to the officers of the IPA. However, physicians are encouraged to direct their problems to their county IPA Board members. The CSMS Council remains very attentive to IPA issues affecting physicians.

Specialty societies—In accordance with the wishes of the HOD, 33 specialty societies with Connecticut chapters have received invitations to send a delegate and /or alternate to this semi-annual meeting. Would the specialty society delegates please stand for a hearty welcome. We welcome you with all sincerity to the Federation of CT physicians. I have dreams about the First Connecticut Physicians Conference in the year 2002, as a world-class event that would advance key issues, promote collegiality, furnish CME credits and provide a forum to discuss health policy and plans for the future.

County associations—Al Herzog and I had the privilege of attending the Tolland, Middlesex, Fairfield, New London and Windham semi-annual meetings (conflict with Litchfield). All of the county leaders I have spoken with strongly support the concept of the Federation of County Associations and the State Society working in collaboration for the benefit of CT physicians. The consensus shared by everyone is that strong county associations insure a more proactive state medical society. The CSMS Ad hoc Committee on Membership, chaired by Dr. Joe Sadowski, has been reactivated and is committed to serving our county associations by offering assistance in problem solving, looking for ways to help reduce overhead costs or helping to remove administrative hassles, for any county on a strictly voluntary basis. To quote a county president, "no county association should be threatened or embarrassed by the CSMS offering to improve their viability. The CSMS Council has made "Reports from the Counties" a permanent part of the meeting agenda. Physicians are again encouraged to use their association counselors and officers as direct lines of communication to the state medical society.

Grass Roots Activity—Denise Graham, our new government relations staff member, continues to set a world record pace for fund-raisers. Physicians have hosted 20 political fund-raisers, collecting $50,000 in campaign funds with the involvement of 200 physicians. All the members of CSMS are encouraged to "lend your legislator a hand" and meet, greet and treat your local legislator to the pleasure of your company. This burst of grass roots politics is a spontaneous expression of unity that is noteworthy and carries a powerful message to the Capitol. All eight counties have hosted at least one fund-raiser. This is where grass roots politics builds durable friends for medicine.

MD PAC—M.D.PAC has reached an all time high of 766 members. Next month we will start our campaign for the year 2001, which we anticipate will be the year our PAC makes history, by reaching 1,000 members for the first time, in the history of the PAC (started in 1964). The M.D. PAC Board has expanded the classifications of membership from $100 blue ribbon for sustaining members, $250 for gold members, and $500 for platinum members. Here are the winners of our first annual M.D. PAC award for greatest percentage of membership: Middlesex, New London, and Tolland counties. Our advocacy must reach beyond the physician's office and into the State Capitol. We physicians are our patients' most powerful advocates, and increasingly, we are their only advocates.

Leadership — Many of the physicians in this room will be the leaders who *direct* us into the computerized medical record with clinical data collection, *show* us, how to be health information internet navigators, *teach* us how to coach our patients into healthier life styles, *guide* us in the use of the internet for practice management, *lead* us as we become quality improvement specialists, and *mentor* us to become organized, disciplined, collegial and cooperative physician groups. Physicians will have to develop comfort and expertise in new roles and new responsibilities, as we resume our proper placea as patient advocates and medical leaders.

When I think about the task of leadership, I am reminded of a story told to me by Dr. Joe Sadowski. This summer as Joe was walking on the CT shore, he came across an old bottle. He picked it up, rubbed it, and sure enough—out came a genie. "It's been an exceptionally long and difficult day," the genie said, "so I'm only going to give you one wish." Joe quickly responded and said, "I would like to own a toll bridge, built from Connecticut to Nantucket. The genie frowned and said: "Are you out of your mind? Do you know how difficult that would be? The sound is incredibly deep and you are talking about a considerable distance. It's out of the question. Think of something else!"

Joe reflected for a moment and said: "You know, I have devoted many years to helping all physicians unite, encouraging doc's to join their PAC and persuading the medical profession to engage their legislators. That's what I want instead of the bridge—that's my wish."

The genie thought for a moment and then responded, "That bridge, did you want two lanes or four lanes?'

Council of the New England State Medical Societies—The CNEMS meeting at the palatial Massachusetts Medical Society headquarters in Waltham, Massachusetts was an edifying experience for myself (if not for Tim Norbeck). Tony Redmond forcefully and tactfully presented the request of the Finance Committee that Connecticut must have a spending cap on the price of hospitality suites and incidental expenses at AMA meetings. The most interesting item to me was the report from the Maine Medical Society. The Bureau of Medical Services is requesting that all Medicaid providers perform a self-audit of their Medicaid claims for the last five years. The state agency is seeking bids from private companies to perform audits of physicians offices with payment based on a contingency fee of 25% (a finders fee) for all monies returned to the state.

CSMS PHYSICIAN PLACEMENT SERVICE

The Society maintains the Physician Placement Service as a *free* service to the medical profession, hospitals, and communities in Connecticut.

***Opportunities* should be typed, double-spaced copy on letterhead and submitted to CSMS, Physician Placement Service, 160 St. Ronan Street, New Haven, CT 06511 (203) 865-0587 or fax to (203) 865-4997. These will be published as space permits and will be distributed to physicians making inquiries of such *opportunities*.**

***Physicians wishing to locate* in Connecticut may call the office requesting opportunities in their specialty. Also, candidates are invited to submit a resume to be kept on file with the Society. An announcement of a physician's availability will be published in two issues of *Connecticut Medicine* as space permits.**

Listing of physicians in the Placement Service does not in any way represent certification by the Society. Investigation of credentials and experience is the responsibility of those seeking applicants for positions.

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Chief: Emergency Medicine (EM), St. Vincent Hospital (SVH) at the Worcester Medical Center (WMC), Worcester, Massachusetts. Qualifications should include: board certification in EM; eligibility for privileges in EM at SVH; eligibility for membership on the active staff at SVH and a minimum of six years experience in EM with demonstrated clinical outcomes acceptable to SVH. Please respond by December 31, 2000 to: Cecile Mosher, Manager, Medical Staff Services, St. Vincent Hospital at Worcester Medical Center, 20 Worcester Center Blvd., Worcester, MA 01608. WMC is a new, advanced healthcare facility in downtown Worcester. It is owned by Tenet Health system and seeks to revolutionize the delivery of medical care in the area. For more information, visit our web site at www.worcestermedcenter.com.

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Connecticut Medicine

Journal of the Connecticut State Medical Society

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NOTICE: GUIDELINES

Managed care plans typically require physicians to complete and submit a variety of patient-identifiable forms relating to pre-authorization and utilization review. Due to the confidential nature of such patient information, physicians should establish clear guidelines in their offices regarding the completion of such paperwork to ensure its confidentiality. In order to avoid potential legal liability, third parties, including pharmaceutical vendors, should not be offered access to such confidential information without a patient authorization.

Consumer Concern or Complaint Form
Regarding Group or Individual Health Insurance
Including Managed Care Plans

To Be Submitted To
THE CONNECTICUT DEPARTMENT OF INSURANCE
CONSUMER AFFAIRS DIVISION
P.O. BOX 816
HARTFORD, CT 06142-0816

Phone: (860) 297-3900 or 1-800-203-3447 Fax: (860) 297-3872

The Consumer Affairs Division of the Department of Insurance receives, reviews, and responds to complaints and inquiries from state residents concerning insurance related problems. The staff examines each complaint to determine whether statutory requirements and contractual obligations within the commissioner's jurisdiction have been fulfilled. The Consumer Affairs Division coordinates the resources available within the Department to address consumer complaints.

In order for the Division to pursue a formal review of a concern or complaint, the consumer must submit a written explanation to the address listed above with as much pertinent detail as possible. Each written submission to the Consumer Affairs Division will be acknowledged.

Name of person filing the concern or complaint:

____

Address: ____

Phone where the Department can contact you: (_____) ______________________________

This concern or complaint concerns the following Insurance Company or Managed Care Plan: ______________________________

Policy Number: ______________________________

Name of Policyholder: ______________________________

Name of Enrollee: ______________________________

Name of Patient: ______________________________

Patient is ___ **self** ___ **dependent** ___**other** (explain)______________________________

The following is a detailed description of the concern or complaint:

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